

COMMONWEALTH OF MASSACHUSETTS

APPELLATE TAX BOARD

BOSTON GAS COMPANY d/b/a v. THE BOARD OF ASSESSORS
KEYSPAN ENERGY DELIVERY OF THE CITY OF BOSTON
NEW ENGLAND

Docket Nos.
F275055, F275056¹

Promulgated:
December 16, 2009

These are appeals under the formal procedure, pursuant to G.L. c. 58A, § 7 and G.L. c. 59, §§ 64 and 65, from the refusal of the appellee to abate taxes on certain real estate and personal property in the City of Boston owned by and assessed to the appellant under G.L. c. 59, §§ 11, 18 and 38 for fiscal year 2004.

Chairman Hammond heard these appeals. Commissioners Scharaffa, Egan, Rose and Mulhern joined him in the decisions for the appellee. These Findings of Fact and Report are promulgated on the Board's own motion simultaneously with the issuance of the decisions relating to the appeals.

¹ The appellant also has appeals pending for subsequent periods including: fiscal year 2005 (docket nos. F279207 and F279208); fiscal year 2006 (docket nos. F284088 and F286194); fiscal year 2007 (docket nos. F288525 and F288527); fiscal year 2008 (docket nos. F297265 and F297266); and fiscal year 2009 (docket nos. F303244 and F303245). The parties, with the consent of the Appellate Tax Board ("Board"), agreed to try the fiscal year 2004 appeals as a "test year" to obviate the immediate need for further discovery while allowing relevant issues to be adjudicated and provide substantial guidance for disposition of the remaining appeals.

John M. Lynch, Esq. and Stephen W. DeCoursey, Esq. for the appellant.

David L. Klebanoff, Esq. for the appellee.

FINDINGS OF FACT AND REPORT

I. Introduction

A. Appellant

The appellant, Boston Gas Company, d/b/a KeySpan Energy Delivery New England ("Boston Gas" or "appellant"), having been in operation for more than 175 years, is the second oldest gas company in the United States.² As of December 31, 2002, Boston Gas provided service to approximately 575,000 customers in eighty-one cities and towns throughout the Commonwealth via a 6200-mile network of pipe, storage facilities, and associated equipment necessary to operate and maintain its natural gas storage and distribution system. Among the communities served, Boston has by far the largest customer base.

Between 1929 and 2000, Boston Gas was wholly owned by Eastern Enterprises ("Eastern"), a Massachusetts business trust, which was also a public utility holding company. As of January 1, 2000, Eastern owned two other regulated

² The present tense, as used in relation to the property involved in these appeals, reflects facts in existence as of January 1, 2003, the assessment date relevant to the appeals.

utility companies in Massachusetts, Essex Gas Company and Colonial Gas Company.³ On November 8, 2000, KeySpan Corporation ("KeySpan") acquired Eastern.

B. Property at Issue

The property that is the subject of these appeals includes virtually all of the personal and real property owned by the appellant located within the city of Boston as of January 1, 2003, and which comprises its natural gas storage and distribution system.⁴

As the record in these appeals reflects, Massachusetts does not have a local source of natural gas. Consequently, its natural gas needs are met primarily by transportation of gas in a gaseous state through pipelines from the Gulf Coast and sources in Canada. Gas is also transported into the Commonwealth in liquefied form via large tanker ships, which supply the liquefied natural gas ("LNG") facility in Everett, Massachusetts, or by tanker truck. Once in Massachusetts, the gas can be stored at local storage facilities such as the Everett LNG facility and the LNG facility located in the Dorchester section of Boston, which comprises a portion of the property at issue in these

³ Eastern also owned four non-utility subsidiaries including Midland Enterprises, Inc., TransGas, Inc., AMR Data Corporation, and ServiceEdge Partners, Inc.

⁴ One parcel of real estate, known as "Rivermore," is not part of the appeals.

appeals, and is discussed, *infra*. The gas is then used as demand requires. When needed for use, the liquefied gas is vaporized and sent through the pipeline system for distribution to customers.

1. Personal Property

The personal property involved in these appeals consists primarily of: an extensive web of pipe, also known as "mains," which are used to transport vaporized gas throughout Boston Gas' distribution system; "services," which are lines that connect mains to customers' property; and meters, which are used to monitor gas distribution and consumption. Boston Gas also owns various other equipment and items, which support the operation of its gas distribution system.

The mains owned by the appellant in Boston comprise approximately 80% of the value of the personal property at issue, and as of December 31, 2002, consisted of nearly five million linear feet, or almost 939 miles, of pipe of various materials and diameters as reflected in the following table.

Diameter in Inches	Cast Iron Footage	Plastic Footage	Regulator Footage	Steel Footage	Total Footage
1	281	631		643	1,555
1¼	532	1,816		1,086	3,434
1½	3,135	188		6,373	9,696
2	21,755	13,607		21,035	56,397
2½	1,273			493	1,769
3	134,978	32,027	6	44,835	211,846
3½					7
4	896,441	191,941	2	183,835	1,272,219
5		135	5	1,600	1,740
6	1,204,379	378,940	41	282,904	1,866,264
8	234,531	134,244	28	133,612	502,415
10	58,063	139	9	1,554	59,765
12	345,879	2,635	2	209,844	558,360
14	9			387	396
16	18,204			57,016	75,220
18	14,241			570	14,811
20	56,854			57,548	114,402
24	63,791			24,882	88,673
30	54,370			16,250	70,620
36	35,085			4,481	39,566
42	5,111			883	5,994
54	963				963
TOTAL	3,149,875	756,313	93	1,049,831	4,956,112

As summarized in the table, roughly 64% of the appellant's mains are constructed of cast iron, and the balance is steel and plastic. In the mid-nineteenth century, cast iron replaced wood as the desired material for buried pipe installations used to transport water and gas because it offered superior strength and pressure capacity. Cast iron was the predominant pipe material from approximately 1850 to 1940, but new installation of cast iron pipe was all but phased out by 1950. Rising utility service demands, which required additional capacity and pressure resistance, led to a transition from cast iron to steel pipe. Gas companies started to use bare unprotected

steel in the 1930s, and by the 1950s, began to employ coatings and cathodic rust protection to protect the steel used in their distribution systems. Steel pipes enhanced with these rust inhibitors are still used in certain medium and high pressure applications, as well as for pipes twelve inches or more in diameter.

Plastic pipe was incorporated into gas systems by 1970, offering several advantages over steel pipe including absence of corrosion, lower cost, simpler installation, and potentially longer life. Thus, plastic has been utilized extensively in newer installations, particularly at relatively small diameters up to, but most often less than, twelve inches. At larger diameters, steel remains the material of choice because plastic does not possess the requisite resistance to crushing.

All three types of pipe are quite durable. Cast iron naturally builds a protective film known as "rust scale" around the pipe, and typically lasts 100 to 150 years in the ground. Steel that has been protected from corrosion, as typically used by Boston Gas in Boston, can remain useful for at least 100 years. Plastic has been in use for approximately forty years, and estimates indicate that its useful life will likely extend more than twice this period.

As of December 31, 2002, Boston Gas owned slightly in excess of 110,000 services in Boston, which provided access to gas service for approximately 151,000 commercial and residential customers, accounting for approximately 26% of the appellant's company-wide customer base. Boston Gas maintains its meters in a fluctuating inventory, which is shared system-wide, and not specifically broken down on a town-by-town basis. Consistent with its percentage of customers in Boston, Boston Gas allocated 26% of its meters to estimate those present in Boston as of the relevant assessment date.

2. Real Property

The real property at issue is located at 238 Victory Road in the Dorchester section of Boston,⁵ approximately three miles from downtown Boston ("Commercial Point"). The approximately 34.5-acre parcel⁶ is bordered as follows: to the west by Interstate 93 ("I-93"); to the north by Dorchester Bay; to the South by Victory Road and a recreational boating club known as the Old Colony Yacht

⁵ The parcel has been referred to by the parties both as 220 and 238 Victory Road. As there is no dispute regarding the location of the land at issue, the Board, for the sake of consistency, will refer to the address as 238 Victory Road.

⁶ The size of the parcel, as well as what portion constitutes "upland," and what portion is either "spongy" or underwater, was disputed by the parties during the course of the proceedings relating to these appeals. Though neither party presented evidence from a registered land surveyor to address this issue, the Board addresses this disparity, *infra*, in the discussion of the valuation experts' appraisals of the Commercial Point property.

Club; and to the east by the Neponset River. The parcel is irregularly shaped and on its seaward side is surrounded, in large part, by a granite seawall. Commercial Point is accessible via Victory Road, an asphalt-paved public street approximately fifty feet wide that extends to the east from main thoroughfares including Morrissey Boulevard and the northbound off-ramp from I-93. Commercial Point has several paved parking areas, but the majority of the site is not paved. The property is generally level and rises slightly toward its center.

The majority of the Commercial Point property is used by Boston Gas as an LNG storage and distribution facility. Boston Gas relies on the facility to fulfill its supply and reliability needs, and in particular to support natural gas needs during peak consumption periods, such as the winter months when significant amounts of gas are used for heating purposes.

The LNG facility is secured by double-chain-link and barbed-wire fences. There are sliding security gates, which are operated via remote control from a control building. Both the entrances to, and the perimeter of, the LNG facility are continuously monitored by remote television cameras and motion detectors. The area outside the facility includes "Rainbow Park," at the property's southeast

corner,⁷ and the "inlet area," located at the northerly corner of the parcel where it adjoins Dorchester Bay.

Commercial Point is improved with a 331,000 barrel, 1.13 billion cubic foot LNG storage tank constructed in 1971. The tank, which consists of a cryogenic storage tank enclosed by a 111-foot tall steel tank, is the largest among Boston Gas' several storage and gas vaporization facilities in the Commonwealth. The LNG tank is surrounded by an earth and concrete containment dike and is serviced by a series of pipes, both underground and overhead, as well as an above-ground cooling tower used in the process of liquefying natural gas. The site is also improved with a single-story monitoring and control building.

II. Jurisdiction and Presentation of the Case

For the fiscal year at issue, the Board of Assessors of the City of Boston ("assessors") valued the subject property and assessed tax thereon as follows:

⁷ Rainbow Park had long been accessible to the public as a recreational boat launching area. After the events of September 11, 2001, however, it was closed to the public and surrounded by fencing.

Property	Assessed Value (\$)	Tax Rate/\$1000	Tax Assessed (\$)
Personal Property Docket # 275056	223,200,000	33.08	7,383,456
Commercial Point ⁸ Docket # 275055	28,000,000	33.08	926,240

The assessors mailed the actual tax bills relating to the referenced assessments on or about April 1, 2004, and the appellant timely paid all assessed taxes pursuant to G.L. c. 59, § 57C. In accordance with G.L. c. 59, § 59, the appellant timely filed Applications for Abatement with the assessors on April 23, 2004. The assessors denied the abatement application relating to the appellant's personal property on June 9, 2004, and the application relating to the Commercial Point real property on May 19, 2004. In accordance with G.L. c. 59 §§ 64 and 65, the appellant seasonably filed Petitions Under Formal Procedure with respect to both matters on July 22, 2004. On this basis, the Board found and ruled that it had jurisdiction to hear and decide these appeals.

⁸ Based on the evidence presented, including a view of Commercial Point taken by Chairman Hammond, the Board found and ruled that all of the property at Commercial Point was real property, and classified it as such for purposes of these appeals.

The appeals were tried before Chairman Hammond over the course of twenty-two days, which included Chairman Hammond's view of the Commercial Point property. The appellant contested the disputed assessments primarily through the submission of various documents and the testimony of seven witnesses, who were called in the following order: Ronald W. Rakow, Commissioner of the Boston Assessing Department; Leo Sullivan, an assistant assessor with the Boston Assessing Department; Susan F. Tierney, Ph.D., Managing Principal for Analysis Group, Inc.; Joseph F. Bodanza, a former employee of the appellant; Emmet T. Logue, a Massachusetts Certified General Real Estate Appraiser; John Stavrakas, an employee of the appellant; and Thomas Liard, former Tax Manager for the appellant. For their part, the assessors offered documentary evidence and presented four witnesses including: David J. Effron, a consultant with Berkshire Consulting Services; George E. Sansoucy, a professional engineer and expert in utility valuation; Glenn C. Walker, a Massachusetts Certified General Real Estate Appraiser; and Steven R. Foster, also a Massachusetts Certified General Real Estate Appraiser.

III. The Appellant's Case

A. Susan F. Tierney, Ph.D.

The appellant's case focused and was largely dependent on the testimony of Susan F. Tierney, Ph.D., a former state and federal regulatory official whose career includes service as the Commissioner of the Massachusetts Department of Public Utilities ("DPU")⁹ and the Assistant Secretary for Policy at the United States Department of Energy. Dr. Tierney is a Managing Principal at Analysis Group, Inc. and, according to her testimony and CV, has provided a variety of consulting services to business, government, and other organizations with respect to energy markets, economic and environmental regulation and strategy, and energy facility projects. The Board qualified Dr. Tierney as an expert in regulatory and utility matters generally, as well as rate regulation and its implications on the valuation of regulated assets.

Dr. Tierney testified that utilities generally own several types of property, which she grouped into three categories: rate-regulated utility property, which consists of tangible assets that are used in the governmentally rate-regulated performance of a utility's monopoly

⁹ The Department of Public Utilities was known as the Department of Telecommunications and Energy from November of 1997 to April of 2007.

function; utility property subject to market-based rates, which consists of tangible assets owned by a utility in a competitive (i.e. not subject to rate regulation) part of its business; and other assets, which include a variety of assets owned by a utility but not used in its core regulated or competitive utility functions. Dr. Tierney stated that for a natural gas utility, such as Boston Gas, pipes, conduits, meters and storage facilities used in the transmission, distribution and storage of gas for consumer use are all rate-regulated utility property.¹⁰ These types of property are at issue in the current appeals.

Dr. Tierney described utility regulation's essential purposes as allowing a utility: to recover through rates charged to consumers its reasonable operating expenses, including taxes, in performing its regulated activity; to recover, over time, its reasonable and prudent investment in the assets used in its performance of a regulated function; and to earn a reasonable return on that

¹⁰ According to Dr. Tierney, utility property in Massachusetts subject to market-based rates includes assets used in the sale of natural gas as a commodity. "Other assets" include tangible property used in non-utility business activities such as equipment sales and repair, accounting assets such as receivables and goodwill and, where allowed, certain "regulatory assets," which are intangibles consisting of incurred costs or expenditures, recovery of which is allowed from consumers by a regulatory authority pursuant to a specific policy, such as the costs associated with an abandoned project whose original undertaking was approved by the regulatory authority but ultimately proved not to be feasible (so-called "stranded costs").

investment. Dr. Tierney reduced these elements to the following formula:

$$\text{Revenue Requirement} = \text{Operating Expenses} + \text{Taxes} + \text{Depreciation Allowance} + (\text{Rate of Return} \times \text{Rate Base})$$

Dr. Tierney explained that "rate base" in this formula, upon which the utility can expect a specified rate of return, is calculated by the DPU as the dollar amount of the utility's original investment in its plant less accumulated depreciation allowed to be recovered in prior rates as a depreciation allowance. This rate-base amount is commonly known as "net book value."

Dr. Tierney also discussed the DPU's adoption of "performance-based rates" ("PBR"). This regulatory policy, which was in place for several years prior to the assessment date relevant to these appeals, contemplates deviation from the return provided for by the revenue requirement formula described above. More specifically, under PBR, rates are set for several years, and the rate for the first year (the "cast-off rate") is based on the traditional cost-based, revenue requirement formula. For each subsequent year, the DPU sets a fixed upward inflation adjustment to the cast-off rate and a downward productivity adjustment intended to encourage utilities to operate efficiently. Thus a utility that operates more efficiently than the productivity offset anticipates will be more

profitable than one operating under the traditional cost-based formula. Conversely, relative inefficiency will result in diminished profitability.

Given the constraints imposed by these rate-making policies, Dr. Tierney concluded that a potential buyer of rate-regulated utility property would not reasonably expect to earn more than a return of and on the net book value of such assets on the seller's books and therefore should not pay more than the seller's net book value for the assets.

Dr. Tierney specifically addressed regulatory issues affecting the valuation of the Commercial Point property, which she noted is rate-regulated utility property. In particular, she discussed, at length, the Commercial Point LNG facility's essential function of assuring a steady gas supply to the area. Given this function, Dr. Tierney opined that the DPU would forbid a sale of the Commercial Point property without substitution of equivalent storage capacity and function within the appellant's gas distribution system. Dr. Tierney also concluded that the cost of such substitution would be prohibitively high for several reasons including: the inherent difficulty of siting large new LNG facilities in the Commonwealth; the impracticality of finding an alternative site of sufficiently large size and proximity to Boston; and the

necessarily higher cost of replacing the tank at Commercial Point relative to retaining the current LNG facility and the land upon which it is situated. In light of these facts, Dr. Tierney concluded that the DPU would not consider any substitution cost prudently incurred and would not, therefore, approve recovery of the cost. Consequently, were the expense to be incurred by Boston Gas or a subsequent owner of the property, there would be no prospect of its recovery. Thus, Dr. Tierney concluded that the only viable purchaser of the Commercial Point property would be a regulated utility that would continue to provide the same system storage capacity currently available on the site. This buyer would be subject to the various constraints on rate of return discussed, *supra*, and therefore, according to Dr. Tierney, would not reasonably be expected to pay more than net book value for the property.

Dr. Tierney also discussed the concept of the "enterprise value" of a utility as a whole, which she defined as a measure of what the market believes an entire company is worth at a particular point in time, and is equal to its market capitalization plus the company's long term debt less its cash or cash equivalents. Dr. Tierney opined that there is a fundamental difference between the

value of a utility's rate-regulated utility property and its enterprise value. She stated that, depending upon the businesses and activities in which a utility engages, the enterprise value of the company may be quite different from the value of its rate-regulated utility property and other regulatory assets which are included in its rate base. Thus, the enterprise value of a utility that owned both rate-regulated utility property and utility property subject to market-based rates would likely be different than the total net book value of the assets because the property subject to market-based rates would have an economic value different than its net book value, depending on market conditions. According to Dr. Tierney, non-utility assets owned by a utility company, which would allow the company to offer valuable goods and services in the marketplace, would also affect the company's enterprise value. Dr. Tierney gave examples of sources of economic value associated with an enterprise, as distinct from its rate-regulated utility property, which include various intangibles such as intellectual property, brand name, management acumen, customer base, workforce attributes, relationships with suppliers, use of inventory, ability to raise and manage cash, specialization in operations of a particular type of asset, and economies of scale.

Dr. Tierney did not, however, specify how and to what extent these various attributes would contribute to the value of a regulated utility.

Dr. Tierney, having distinguished between what she believed to be the economic value of rate-regulated utility property and the value of an enterprise as a whole, reiterated her belief that rate-regulated utility property should sell for net book value. Dr. Tierney acknowledged that utilities have been acquired for sums that vastly exceed the value of their rate-regulated assets, but opined that the additional amount, known as an "acquisition premium" or "acquisition adjustment," is a reflection of a company's enterprise value and in her opinion is not associated with payment for rate-regulated utility property in excess of its net book value. In particular, Dr. Tierney stated that any acquisition premium, which she noted is booked on the accounts of a utility as "goodwill,"¹¹ relates to benefits anticipated from operation of the combined enterprises, which are rooted in the "attributes of the combined enterprises above and beyond the value of the Rate-Regulated Utility Property itself."

¹¹ While goodwill, pursuant to applicable accounting regulations, is carried as an intangible asset on the books of a regulated utility, the evidence presented provided no basis to conclude that this accounting treatment was dispositive for purposes of *ad valorem* taxation.

The Board found Dr. Tierney's testimony credible as it related to her explication of regulatory principles, including the substance of the traditional cost-based and performance-based rate-setting mechanisms. The Board also agreed with Dr. Tierney's conclusion that practical considerations, regulatory constraints and security concerns would effectively limit the sale of the Commercial Point property to another regulated utility. Finally, the Board found credible Dr. Tierney's distinction between the enterprise value of an entity and the value of its rate-regulated utility property. The Board, however, found unsubstantiated Dr. Tierney's insistence that any amount paid for a utility above the net book value of its rate-regulated utility property was associated wholly with the utility's enterprise value as distinct from the value of its rate-regulated property. This lack of substantiation, which fundamentally undermines the appellant's case, was particularly evident when viewed against the backdrop of the assessors' presentation of the several sales of utilities discussed in their valuation expert's comparable-sales analysis, discussed *infra*, each of which reflects a substantial acquisition premium that the Board found was not adequately accounted for by Dr. Tierney's testimony.

B. Joseph F. Bodanza

Joseph F. Bodanza, a former senior vice-president of the appellant who had held various positions relating to finance, accounting, and regulatory affairs within the company's predecessors, testified on behalf of the appellant. Mr. Bodanza had executed the Applications for Abatement relating to these appeals in which the appellant stated that its opinion of the value of the personal property was \$159,157,892 and the real property at Commercial Point, \$1,829,984, the net book value of each type of property. Mr. Bodanza stated his belief that as the net book value of the property "[was] the value [the appellant] was going to be allowed to earn on . . . [the appellant] should not pay taxes on any higher value than . . . net book value."

Mr. Bodanza also testified concerning KeySpan's acquisition of Eastern in 2000, noting that the transaction involved not only Eastern's tangible personal property, but the enterprise as a whole, including regulated and unregulated businesses of Eastern as well as intangible assets. Mr. Bodanza stated his belief that the value of Eastern's enterprise was greater than the net book value of its tangible assets. Mr. Bodanza did not, however, break down the various components of value that comprised the

"enterprise" acquired in the Eastern acquisition, nor did he explain how or to what extent the unregulated businesses of Eastern or its intangible assets contributed to its revenue or the purchase price paid for the company. Rather, Mr. Bodanza simply asserted that any amount above the net book value of Eastern paid by the appellant was paid for some unspecified element of Eastern's enterprise. Moreover, while Mr. Bodanza had substantial familiarity with the appellant's financial affairs, as well as rate cases and transactions involving the sale of utility property, he was not presented, nor was he qualified as, an expert on the valuation of utility property in general or the appellant's property in particular. Thus, the Board found that Mr. Bodanza's testimony did little to assist in establishing the fair cash value of the property at issue in these appeals.

C. Emmet T. Logue

Although Dr. Tierney's opinion regarding the value of rate-regulated utility property encompasses the appellant's view of the fair market value of the property at Commercial Point, the appellant offered the testimony of Emmet T. Logue, a Massachusetts Certified General Real Estate Appraiser and president of Hunneman Appraisal and Consulting Company. Mr. Logue, whom the Board qualified as

an expert in real estate valuation, prepared a Self-Contained Appraisal Report relating to the Commercial Point property, which he stated applied only to the contributory value of the fee simple interest in the land, rather than the value of the land and its improvements as a whole. Mr. Logue twice inspected the property, which he concluded consisted of 34.47 acres, approximately 28.7 of which he determined were upland. To arrive at his valuation, Mr. Logue considered neighborhood and site factors, the environmental history of the property,¹² the area real estate market, zoning, and various other relevant considerations. He also consulted with Dr. Tierney regarding, *inter alia*, the effect of regulation on the site's value as well as the importance of the LNG facility to the Boston Gas storage and distribution system. Having taken these and other factors into consideration, Mr. Logue

¹² Mr. Logue's discussion of the property's environmental history focused on hazardous waste releases that were reported to the Massachusetts Department of Environmental Protection in 1987 and 1995, as well as the property's designation as a "Tier II" site and remediation activities, the plan for which was substantially underway as of the relevant assessment date. An Activity and Use Limitation ("AUL") placed on the site "covered" approximately 90% of the property, but found "current and future significant risk" in only two areas. These areas comprise approximately 15% of the site and were covered with an engineered barrier and filled with crushed stone. The AUL allows for the property's present use, and currently prohibits residential uses, schools, hotels and daycare centers. The Board noted that the parties presented scant evidence as to the amount or type of contamination.

concluded that the property's highest and best use was its continued use as an LNG storage and distribution facility.

To arrive at his estimation of the fair market value of the land at Commercial Point, Mr. Logue considered use of three valuation methodologies, including the cost approach, the income-capitalization approach and the sales-comparison approach. Mr. Logue eschewed the first two approaches in favor of the sales-comparison approach. He concluded that the cost approach was not appropriate because he intended to value the land hypothetically, without improvements, obviating the need for or reason to apply the cost approach. Mr. Logue noted that use of the income approach would have involved analyzing land rents and then capitalizing the estimated rental income of the land to arrive at an indicated value for the parcel. He stated, however, that he was not able to locate any land rents for properties that were similar to Commercial Point in size and use. He therefore concluded that the data available to establish land rent was not adequate and the income approach was of no value.

Having concluded that the sales-comparison approach was the appropriate method to value the parcel at Commercial Point, Mr. Logue sought to identify sales of land similar to the Commercial Point parcel with known

sales prices and terms of sale. To achieve this goal, Mr. Logue reviewed sales transactions throughout eastern Massachusetts. Based on this review, Mr. Logue identified sales of five properties he considered sufficiently comparable to the Commercial Point parcel to warrant comparative analysis. The five properties, two of which are waterfront properties, are located in Quincy, Everett, Chelsea and Medford, and their sales occurred between March 1999 and April 2004. The sites ranged in size from five acres to 74.25 acres of identified "upland," and sold for prices ranging from \$4.41 to \$8.83 per square foot of upland, the unit of comparison Mr. Logue chose to employ in his analysis. Mr. Logue made value adjustments to compensate for differences between these properties and the Commercial Point parcel with respect to market conditions at the time of sale, location and physical characteristics, the property interest acquired, and any special conditions that affected the sale. Mr. Logue made these adjustments individually, then combined the individual adjustments into an overall adjustment factor, which he applied to the chosen sale price unit of comparison to arrive at an indicated value for the Commercial Point parcel.

Based on his comparative analysis, Mr. Logue concluded that the indicated value of the subject property was \$6.00

per square foot of upland. He applied this unit price to the 1,250,000 square feet of upland that he had determined were present at Commercial Point. In this manner, Mr. Logue derived an indicated value of \$7,500,000 for the Commercial Point parcel.

In an addendum to his report, Mr. Logue identified seventeen "Assumptions and Limiting Conditions" applicable to his appraisal, the last of which states:

In accordance with the Expert Report of Susan F. Tierney, Managing Principal, Analysis Group, Inc., the Commercial Point facility is rate regulated utility property in Massachusetts where net book value is the basis for establishing the property's value. While I have identified the net book value for the Commercial Point facility as it existed as rate regulated utility property as of January 1, 2003, I have presented a market based estimate of the contributory value of the land assuming the Commercial Point property was unregulated and subject to market based rates. The market based land value estimate is, therefore, hypothetical in that it does not incorporate the net book value of the site.

Similarly, in the section of his appraisal report detailing his sales-comparison valuation methodology, Mr. Logue stated "[t]his value conclusion represents my estimate of the contributory market-based value of the land as part of the property improved for LNG storage and distribution purposes and assuming the property is not rate-regulated utility property My valuation is hypothetical since it does not reflect the rate-regulated

nature of this utility." In the Reconciliation and Final Value Estimate section of his report, Mr. Logue offered his opinion of "the market-based value of the fee simple interest in the subject land, as if unregulated utility property."

Mr. Logue confirmed this approach in his testimony, during which he stated that he "was to estimate . . . what could be referred to as the market based value under the hypothetical assumption that [the land] was not rate regulated utility property." Mr. Logue further described his hypothetical assumption as "essentially saying that you know something to be false but you are appraising it and using a certain methodology for the purposes of analysis." Based on Mr. Logue's testimony and appraisal report, it appears that Mr. Logue's true valuation of the property is \$388,196, the net book value of the property, a valuation compelled by Dr. Tierney's Expert Report, which Mr. Logue stated in his appraisal report "dictate[s] [the property's] actual valuation."

The Board found that given the hypothetical nature of Mr. Logue's appraisal, his sales-comparison analysis was of minimal probative value. As a threshold matter, the derivation of his indicated value for the Commercial Point parcel was inconsistent with his determination that the

highest and best use of the property was its continued use as an LNG storage and distribution facility. Moreover, not only did Mr. Logue's hypothetical assume crucial facts regarding the nature of the property at Commercial Point and its potential use that were at best speculative, but the analysis ignored substantial evidence in the record indicating that under no foreseeable circumstances could his hypothetical be realized. More specifically, Dr. Tierney, with whom Mr. Logue consulted and referenced in his appraisal report, gave detailed and credible testimony regarding the Commercial Point LNG facility's essential function of assuring a steady gas supply to the area, and the consequent prohibition DPU would place on the sale of the Commercial Point property without substitution of equivalent storage capacity and function. Dr. Tierney also credibly testified that the cost of such substitution would be so high as to effectively prevent the property's sale to any party but a regulated utility that would continue to provide the current system storage capacity available on the site. These facts, taken together, render Mr. Logue's hypothetical valuation of little discernable value because the Commercial Point property, the current use of which the Board agreed is its highest and best use,

will remain an LNG facility, leading to the inevitable conclusion that it must be valued as such.

Given the foregoing findings, the Board found that it need not address issues relating to Mr. Logue's choice of comparable properties, the various value adjustments he made to compensate for differences between those properties and the Commercial Point parcel, the propriety of his chosen unit value, or the number of square feet of upland that he concluded were present on the Commercial Point parcel to which he applied the unit value. Moreover, to the extent that environmental issues, including the AUL, affected the property, the Board found that any effect on value was not demonstrated with specificity by Mr. Logue, particularly in the context of the property's highest and best use, which is not impeded by existing environmental concerns.

On this basis, the Board found and ruled that Mr. Logue's testimony and appraisal report, taken together, failed to provide sufficient probative evidence to establish the fair cash value of the Commercial Point parcel or to undermine the value placed upon the property by the assessors.

D. John Stavrakas

John Stavrakas, an employee of the appellant who, as of the date relevant to these appeals, was the appellant's Manager of System Planning and Integrity in the New England Region, testified regarding various aspects of the appellant's distribution system in Boston. He described the operation, layout, composition and condition of the system, making reference to maps and tables specifying the types of pipe in Boston by age, material and pressure capacity. With reference to pipe construction, Mr. Stavrakas testified that plastic is currently favored in Boston, given its relatively low cost to install and maintain. Mr. Stavrakas stated that if the Boston gas distribution system had been replaced in its entirety on January 1, 2003, the relevant assessment date, the replacement would have been a high-pressure system constructed predominantly of plastic pipe.

Mr. Stavrakas highlighted the contrast between the Boston distribution system and a new system, stating that as of December 31, 2002, over 60% of the pipe in Boston was cast iron, while roughly 25% was steel and 15% plastic. He also testified that because of its age, the Boston system is a low-pressure system, which presents challenges regarding movement of gas throughout the system. Noting that regulators have prohibited cast-iron main

installations since 1991, he discussed the regulatory requirement that a cast-iron main be replaced anytime its integrity may have been undermined, and stated that such mains are typically abandoned in place upon replacement because they lack salvage value. He further discussed the appellant's obligation to file annually a three-year plan relating to the replacement of gas mains.

Mr. Stavrakas testified that the composition and age of the Boston system resulted in operating and maintenance expenses that substantially exceeded those in other parts of Massachusetts. He estimated that total maintenance expenses for what he termed the Boston Division (which includes Boston, Brookline and a portion of Norwood, and excludes East Boston and Charlestown) for the year ended December 31, 2002 were approximately \$7,250 per mile. He compared this to the Boston Gas system on Cape Cod, a more efficient high-pressure system, which he stated had maintenance costs of approximately \$400 per mile.

E. Thomas Liard

Thomas Liard, the former New England Tax Manager for the appellant, testified briefly regarding assessments of Boston Gas' personal property in the Commonwealth. Mr. Liard stated that of the eighty-one cities and towns in the Commonwealth serviced by Boston Gas, Boston was the

only community that assessed Boston Gas' personal property at a value that exceeded its net book value. The Board found Mr. Liard's testimony of no probative value with regard to the issues contested in these appeals.

F. Ronald W. Rakow and Leo Sullivan

The appellant called Ronald W. Rakow, Commissioner of the Boston Assessing Department and Leo Sullivan, an assistant assessor with Boston, to elicit testimony regarding preparation and substance of the disputed assessments. Mr. Rakow testified regarding the assessments at issue in these appeals, and stated that he approved the assessments and consulted with Mr. George Sansoucy regarding their preparation.¹³ Mr. Rakow also described the submission of the appellant's fiscal year 2004 assessment information to the Massachusetts Department of Revenue ("DOR") as part of the triennial recertification process, and testified as to Mr. Sullivan's role with regard to the assessments involved in these appeals.

Mr. Sullivan testified to his role in the assessment process, which included his preparation of an appraisal report for fiscal year 2004 relating to the land and

¹³ Mr. Sansoucy had been retained by the assessors during 2003 to prepare an appraisal of the property at issue in these appeals for fiscal year 2004. That appraisal, which was dated October, 2003, is wholly separate from the appraisal Mr. Sansoucy prepared in connection with the current appeals, which is discussed *infra*.

improvements at Commercial Point for presentation to DOR. Mr. Sullivan concluded that the highest and best use of the Commercial Point property, which he identified as consisting of almost thirty-eight acres, all of which in his view was upland, was continuation of its current use. To arrive at an estimated land value, Mr. Sullivan employed a comparable-sales analysis, which did not account for the potential impact of contamination and, in part, utilized dated sales for comparison with the Commercial Point property.

The Board found that neither Mr. Rakow's nor Mr. Sullivan's testimony was useful in providing a basis for the Board to determine the fair cash value of the property at issue in these appeals. While their testimony, and particularly that of Mr. Sullivan, did not evidence an analytically consistent and comprehensive approach for valuing the property, neither did it lead the Board to determine that the property had been overvalued. The Board found that the testimony of the various experts, documents in evidence, case law, and relevant regulatory and statutory authority were the appropriate sources to rely upon to address this issue.

IV. The Assessors' Case

A. George E. Sansoucy

George E. Sansoucy, a professional engineer and principal of George E. Sansoucy, PE, LLC, Engineers & Appraisers ("Sansoucy E&A"), whom the Board qualified as an expert on utility valuation issues and as an engineer, testified on behalf of the assessors regarding the value of the personal property at issue in these appeals, as well as the improvements at the Commercial Point property. Mr. Sansoucy, together with colleagues at his firm, including Glenn C. Walker, prepared a Self-Contained Appraisal Report of the real and personal property owned by Boston Gas in Boston for the fiscal year at issue.

To prepare his appraisal report, Mr. Sansoucy consulted a variety of sources including documents provided by Boston Gas to the assessors, documents filed by Boston Gas with state and federal agencies, the Value Line Investment Survey, Moody's Investor Service, Ibbotson Associates, the RS Means Heavy Construction Cost Manual, the Handy-Whitman Cost Index, publications from the Energy Information Administration, regulatory applications filed by natural gas utilities including Boston Gas, as well as the resulting orders from state and federal regulatory agencies, Securities and Exchange Commission filings by gas

utilities, various trade publications, and information gleaned from a tour of the Commercial Point property. Mr. Sansoucy also relied on the appraisal report of Steven R. Foster with regard to the value of the land at Commercial Point. Taking these sources and other information into account, Mr. Sansoucy used the reproduction cost new less depreciation ("RCNLD"), income-capitalization and sales-comparison approaches to derive an indicated value for the property at issue.

1. Cost Approach

For his RCNLD valuation methodology, Mr. Sansoucy employed a technique known as cost-index trending. This approach involves integration of data reflecting the original cost of the property to be valued and information from cost manuals (in the present appeals, the Handy-Whitman Index for the North Atlantic Region ("HWI"))¹⁴ that track changes in the cost of construction over a period of years.

¹⁴ Mr. Sansoucy chose the HWI because it tracks, with specificity, annual changes in utility construction costs for several types of electric, gas and water improvements, including gas distribution systems. Notably, both Boston Gas and the DPU used the HWI in connection with the 2003 Boston Gas rate case before the DPU.

The HWI uses a base year, 1973, to which an index value of 100 is assigned. A ratio is then developed for each year in the index reflecting the cost of property relative to the base year. For the year in which a given piece of property is installed, an index figure is taken from the Handy-Whitman table and a ratio of that figure and the index figure applicable to the valuation date is calculated. This ratio is multiplied by the property's original cost to estimate its "cost new" as of the valuation date.

Regulated utilities such as Boston Gas must maintain records of costs of construction to comply with regulatory requirements. Mr. Sansoucy used historical cost records provided by Boston Gas as they related to the property at issue and applied the HWI to derive the cost new of the property. The following table reflects Mr. Sansoucy's calculations of the cost new of personal property owned by Boston Gas in Boston as of December 31, 2002, for the relevant valuation date, January 1, 2003.

Line #	HWI/DPU Account#	Description	Cost New (rounded) (\$000)
1	362	Gas Holders	\$7,253
2	367 (376)	Mains ¹⁵ ¹⁶	\$958,554
3	380	Services	\$141,745
4	381	Meters ¹⁷	\$24,264
5	382	Meter Installation	\$4,351
6	LPG	LPG Equipment	\$16,042
7	369	Measuring & Regulating	\$3,384
8	TIP	Other Transmission Plant	\$4,382
9		Total Personal Property:	\$1,159,975

Mr. Sansoucy employed the same analysis to arrive at the cost new of Boston Gas's real property at Commercial Point, not including the value of the land, as follows.

¹⁵ Mr. Sansoucy noted that the cost new of mains in Boston may well be understated in his cost estimation because the HWI indices and trend tables begin with 1912. More specifically, trend factors for mains installed before 1912 are not fully trended because they are treated as new in 1912, thereby failing to account for any cost increase between their installation dates and 1912.

¹⁶ The original cost figures provided by Boston Gas did not indicate whether a given cost was associated with cast iron, steel, or plastic pipe. To account for this, Mr. Sansoucy assumed that mains installed prior to 1939 were cast iron, those installed between 1940 and 1969 were steel, and those installed after 1970 were a mix of steel and plastic. He then applied the appropriate HWI trend factor to arrive at cost new.

¹⁷ As noted, *supra*, Boston Gas does not maintain a separate account for meters in each city and town. Mr. Sansoucy therefore used an allocation of meter costs based on the proportion of accounts in Boston relative to the system as a whole, which resulted in allocation of 26% of all meters to the city.

Line #	HWI/DPU Account #	Description	Cost New (rounded) (\$000)
1	305	Production Plant Structures	\$355
2	361	Storage Plant Structures	\$10,981
3	362	Gas Holder Structures	\$17,812
4	366 & 390	General Plant Structures, T & D Structures	\$1,385
5		Total Real Property (Improvements):	\$30,533

Having arrived at figures for cost new, Mr. Sansoucy endeavored to account for various forms of depreciation, including physical, functional, and economic depreciation. To estimate the impact of physical depreciation on the property at issue, Mr. Sansoucy began with the formula: age/life = incurable physical deterioration, also known as physical depreciation. Therefore, for a given portion of the property at issue, Mr. Sansoucy divided the age of the property, as provided by Boston Gas, by the property's estimated useful life. He then multiplied the resulting factor by the cost new of the property to ascertain the diminution in value resulting from physical depreciation.

As discussed, *supra*, Boston Gas owns pipe installed as early as 1849 that is still in use. In fact, of the cost new for the mains in Boston of \$958.6 million derived by Mr. Sansoucy, approximately 80%, or \$765 million, consists of mains that were installed prior to 1942. Mr. Sansoucy

applied a maximum depreciation of 80% (or 20% "to the good") to these mains, meaning that when the value of property in service diminished to this level, it was not further depreciated in value. Mr. Sansoucy concluded that 20% to the good was an appropriate depreciation floor because, as stated in his appraisal report, "it represents the indirect costs of construction for items such as engineering, permitting, and licenses necessary to install [the] mains which are still valid for replacement of new improvements after the old pipe is no longer physically capable of serving customers." Mr. Sansoucy also considered that the aged mains were still in use, providing service to customers and operating as an integral part of Boston Gas' distribution system.

Having applied the referenced criteria to his analysis, Mr. Sansoucy arrived at figures representing cost new less an allowance for physical depreciation as reflected in the following tables.

Personal Property

Line #	Description	Account #	Cost New (App. E) (\$000)	Depreciation To Good (G/E)	Cost New Less Physical Depreciation (\$000)
1	L.P.G. Equipment	LPG Total	16,042	46%	7,432
2	Gas Holders	362 Total	7,253	75%	5,458
3	Street Mains	376 Total	759,936	20%	151,987
4	Street Mains	376 Total	759,936	20%	151,987
5	Street Mains	376.1 Total	36,082	39%	13,910
6	Street Mains	376.4 Total	162,537	86%	140,439
7	Measuring & Regulating	369 Total	3,384	73%	2,461
8	Services	380 Total	141,745	68%	96,238
9	Meters	381 Total	93,322	61%	56,586
10	Meter Installations	382 Total	4,351	62%	2,706
11	Other Transmission Plant	OTP Total	4,382	70%	3,046
12	Sub-Total		1,229,034		480,263
13	Less meters (381) (entire system)	(\$85,271)	1,135,712		423,677
14	Plus meters (381) @ 26% of entire system	\$22,170	1,159,976		438,389
15	Total		1,159,976	38%	438,389

Real Property

Line #	Description	Account #	Cost New (App. E) (\$000)	Depreciation To Good (G/E)	Cost New Less Physical Depreciation (\$000)
1	Other Equipment	LPG Total	355	79%	281
3	Structures - Storage	366 total	10,981	63%	6,916
4	Gas Holders	362 Total	17,812	47%	8,366
5	Land - Transmission & Distribution Plant	365 Total	0	0	0
6	Structures - T & D General	366 Total	1,385	94%	1,304
7	Total		30,533	55%	16,867

Mr. Sansoucy next addressed functional obsolescence, a loss in value attributable to a deficiency or superadequacy

associated with property.¹⁸ Having considered various aspects of the appellant's gas distribution system in Boston, Mr. Sansoucy concluded that the system exhibited functional obsolescence from two sources: excess construction, a superadequacy resulting from cast iron or steel pipe in the system valued at cost new, but which would be replaced by plastic pipe in a new system at a reduced cost; and excess operation and maintenance expenses associated with cast iron and steel pipe in the system.

To measure functional obsolescence resulting from excess construction, Mr. Sansoucy estimated the size, type, and footage of pipe in Boston that would likely be replaced with plastic. Mr. Sansoucy then estimated the cost differential among cast iron, steel, and plastic pipe using the RS Means Heavy Construction Cost manual, and applied the result to the pipe to be replaced, resulting in an allowance for excess construction of \$28,026,368, which he rounded to \$28,000,000. The substance of this analysis is reflected in the following table.

¹⁸ A deficiency may relate to a component or system that property lacks but should have, or a substandard or defective component or system in the property. Superadequacy represents the degree to which elements of property exceed market requirements, thereby not contributing to value an amount equal to their cost. THE APPRAISAL INSTITUTE, THE APPRAISAL OF REAL ESTATE (12th ed. 2001) 404-411.

Row	Size/Type	Footage	Per Foot Prices (n/a = not available) (\$)	Cost New Iron to Steel (\$)	Cost New Iron to Plastic (\$)	Cost New Plastic Price Difference Per Foot (E-F) (\$)	Total Difference (C x G) (\$)
1	1 inch - cast	281	n/a	8.35	3.43	4.92	1,383
2	1 inch - plastic	631	3.43				
3	1 inch - steel	643	8.35			4.92	3,164
4	1½ inch - cast	532	n/a	8.35	3.43	4.92	2,617
5	1½. inch -	1,816	3.43				
6	1½. inch - steel	1,086	8.35			4.92	5,343
7	1½ inch - cast	3,135	n/a	8.35	3.43	4.92	15,424
8	1½ inch - plastic	188	3.43				
9	1½ inch - steel	6,373	8.35			4.92	31,355
10	2 inch - cast	21,755	n/a	10.10	3.92	6.18	134,446
11	2 inch - plastic	13,607	3.92				
12	2 inch - steel	21,035	10.10			6.18	129,996
13	2½ inch - cast	1,273	n/a	10.10	3.92	6.18	7,867
14	2½ inch - plastic	3	3.92				
15	2½ inch - steel	493	10.10			6.18	3,047
16	3 inch - cast	134,978	n/a	13.00	5.55	7.45	1,005,586
17	3 inch - plastic	32,027	5.55				
18	3 inch -	6	-				
19	3 inch - steel	44,835	13.00	13.00	5.55	7.45	334,021
20	3½ inch - plastic	7	5.55				
21	4 inch - cast	896,441	n/a	19.15	11.40	7.75	6,947,418
22	4 inch - plastic	191,941	11.40				
23	4 inch -	2	-				
24	4 inch - steel	183,835	19.15	19.15	11.40	7.75	1,424,721
25	5 inch - plastic	135	16.45				
26	5 inch -	5	-				
27	5 inch - steel	1,600	24.50				
28	6 inch - cast	1,204,379	n/a	30.00	21.50	8.50	10,237,222
29	6 inch - plastic	378,940	21.50				
30	6 inch -	41	-				
31	6 inch - steel	282,904	30.00			8.50	2,404,684
32	8 inch - cast	234,531	n/a	42.50	28.00	14.50	3,400,700
33	8 inch - plastic	134,244	28.00				
34	8 inch -	28	-				
35	8 inch - steel	133,612	42.50	42.50	28.00	14.50	1,937,374
36	TOTAL:						\$28,026,368

Having reviewed documents provided by Boston Gas,
Mr. Sansoucy noted that the company incurred excess costs

for operation and maintenance in Boston relative to the balance of its system, resulting in large part from the system's high proportion of cast iron pipes, which are older and more brittle than steel or plastic. With respect to operating costs, Mr. Sansoucy used what he believed to have been Boston Gas' reported operating costs in Boston of approximately \$2500 per mile and subtracted \$400 per mile, the sum he believed represented operating costs incurred by systems not subject to the excessive costs applicable to Boston. Mr. Sansoucy then multiplied the \$2100 per mile excess cost by 939, the number of miles of pipe in Boston, to derive annual excess operating costs of \$1,971,000 before taxes. He then incorporated a tax factor to account for the tax benefit associated with the expense, arriving at an after tax operating expense of \$1,183,000. Mr. Sansoucy then capitalized this annual cost, utilizing a 7.5% capitalization rate, to arrive at a total reduction in value of \$15,773,000 associated with excess operating costs.

Mr. Sansoucy employed a similar analysis to account for the effect of excess maintenance costs within Boston. Utilizing various data, Mr. Sansoucy estimated Boston Gas' maintenance attributable to Boston at \$7,100,000 per year. Based on statements from the company, Mr. Sansoucy

allocated 50% of these costs, which he rounded to \$3,500,000, to represent Boston Gas' annual excess maintenance expense before tax. As with operating expenses, Mr. Sansoucy factored in a tax benefit and capitalized the resulting annual after tax expense sum to arrive at a valuation impact of \$28,000,000 attributable to excess maintenance costs.

Mr. Sansoucy concluded that the real property at Commercial Point, including the tank, pipes and the building, did not suffer from functional obsolescence. He noted that while the property was affected by physical deterioration, their essential need and use have not changed, and no better way to store LNG for its required use has been developed. In sum, a replacement for the LNG facility would be similar to the facility as it currently exists.

The following table reflects Mr. Sansoucy's summary of cost new less allowances for physical and functional depreciation for the personal and real property at issue.

Personal Property

Line #	Item	(\$000)
1	Cost New - Personal Property	1,159,974
2	Less Excess Construction	(28,000)
3	Cost New Less Excess Construction	1,131,974
4	Less Physical Depreciation (-62%)	(701,824)
5	Cost New Less Excess Construction & Physical Depreciation	430,150
6	Less Functional Obsolescence, Excess Operating Expense	(15,773)
7	Less Functional Obsolescence, Excess Maintenance	(28,000)
8	Physical Depreciation, Excess Operating Costs And Excess Maintenance for Personal Property And Real Property	386,377
9	Cost New - Real Property	30,533
10	Cost New Less Physical Depreciation of Real Property	16,867
11	Total Cost New of Real Property	16,867
12	Land (Steven Foster, Appraiser)	15,000
14	Total Cost New Less Physical and Functional Depreciation for Personal Property Real Property and Land (Rounded)	418,000

Mr. Sansoucy next sought to account for external or economic obsolescence, which results from factors external to the property and which typically cannot be controlled by the property's owner (see THE APPRAISAL OF REAL ESTATE (12th ed. 2001) at 363, 412-13) and exists if the cost new of property less physical depreciation and functional obsolescence exceeds that property's value in the market.

Mr. Sansoucy analyzed the economic obsolescence associated with Boston Gas' property in Boston by comparing the indicated values he derived using the sales-comparison and income-capitalization valuation analyses, discussed in detail, *infra*, with his figure for cost new less physical depreciation and functional obsolescence from the RCNLD approach. With respect to the personal property at issue, Mr. Sansoucy's cost new less physical and functional obsolescence exceeded his values from the sales-comparison and income-capitalization approaches by \$114.4 million and \$36.4 million, respectively.

As with functional obsolescence, Mr. Sansoucy concluded that the Commercial Point property was not affected by economic obsolescence. In support of this conclusion, Mr. Sansoucy cited the nature of the LNG storage and distribution facility, which provides an essential and required special purpose function within the Boston Gas distribution system, and the ownership of which provides a substantial economic benefit, particularly at times of peak demand.

Ultimately, Mr. Sansoucy based his economic obsolescence allowance for the personal property on the income-capitalization approach, having concluded that the sales-comparison approach likely yielded an indicated value that was below the property's fair market value. Moreover, Mr. Sansoucy placed greater emphasis on the income-capitalization approach as the appropriate source of economic obsolescence because cash flow is a primary determinant of the value of an income-producing utility property. Given these conclusions, Mr. Sansoucy incorporated an allowance for economic obsolescence of approximately 10%, having rounded the \$36.4 million differential between the indicated values associated with the cost and the income approaches. The following table summarizes the various components of Mr. Sansoucy's RCNLD valuation methodology.

Personal Property

Line #	Item	(\$000)
1	Cost New - Personal Property	1,159,974
2	Less Excess Construction	(28,000)
3	Cost New Less Excess Construction	1,131,974
4	Less Physical Depreciation (-62%)	(701,824)
5	Cost New Less Excess Construction & Physical Depreciation	430,150
6	Less Functional Obsolescence, Excess Expense	(15,773)
7	Less Functional Obsolescence, Excess Maintenance	(28,000)
8	Total Cost New Less Excess Construction, Physical Depreciation, Excess Operating Costs and Excess Maintenance for Personal Property	386,377
9	Less Economic Obsolescence (-10%)	38,600
10	Cost New Less Depreciation (Rounded) Personal Property	347,777
11	Cost New Less Physical Depreciation of Real Property	16,867
12	Total Cost New of Real Property	16,867
13	Total Cost New Less Depreciation for Real and Personal Improvements (Rounded)	364,644
14	Plus Land	15,000
15	Total Cost New Less Physical and Functional Depreciation for Personal Property, Real Property and Land	379,644
16	(Rounded)	380,000

The Board found Mr. Sansoucy's RCNLD analysis fundamentally sound with respect to valuation of the personal property at issue. In particular, the Board found that Mr. Sansoucy's choice of cost-index trending was an appropriate means to determine the cost new of the property as of the relevant assessment date. Further, his use of the

HWI for the North Atlantic Region and historical cost records provided by Boston Gas yielded reliable figures for the cost new of the property. The Board also found that Mr. Sansoucy's allowance for excess cost of construction was reliable, having incorporated figures for pipe likely to be replaced and estimated applicable cost differentials from the RS Means Heavy Construction Cost manual.

The Board found that Mr. Sansoucy appropriately sought to account for physical depreciation, and functional and economic obsolescence. With regard to physical depreciation, Mr. Sansoucy estimated the useful life of the property, and using the property's known age, arrived at an allowance for physical depreciation. The Board also found that Mr. Sansoucy's choice of a depreciation floor of 20% "to the good" was reasonable. In particular, the Board found credible Mr. Sansoucy's rationale that the floor represents indirect costs of construction for items including engineering, permitting, and licenses necessary to install mains, which would remain valid for new improvements after old pipe is no longer capable of providing service. Further the Board found warranted the consideration Mr. Sansoucy gave to the fact that the aged mains continued to provide service to customers and

operated as an integral part of Boston Gas' distribution system.

The Board also found that Mr. Sansoucy's estimation of economic obsolescence was reasonable. Having concluded that Mr. Sansoucy's income-capitalization analysis was, with adjustment, generally sound (see discussion of the analysis, *infra*), the Board found that the value derived from the income approach provided an appropriate market reference by which to estimate the economic obsolescence associated with the property at issue. The Board also noted that even had the value associated with Mr. Sansoucy's sales-comparison approach been used to estimate economic obsolescence, the resulting adjustment would still have yielded a value under Mr. Sansoucy's RCNLD analysis that supported the disputed assessment.

Notwithstanding the foregoing findings, the Board found that adjustment to Mr. Sansoucy's functional obsolescence allowance for excess operating expenses was warranted to ensure that these expenses had not been underestimated. During the course of his testimony, Mr. Sansoucy stated that he had inadvertently used a system-wide estimation of operation and maintenance expenses of \$2500 per mile provided by Boston Gas to derive his estimate of excess operating costs in Boston. He

acknowledged, however, that this figure was lower than the actual expenses incurred by the appellant in Boston. The Board found that the record did not reflect the precise excess operating costs incurred by Boston Gas in Boston. For purposes of this appeal, therefore, the Board adopted \$3600 per mile, the estimate offered by the appellant as an appropriate measure of its excess operating expenses in Boston. This sum accounted for the disproportionately high amount of cast iron pipe in Boston, approximately 64% of the system total, as well as operating costs associated with a modern gas distribution system, which would not contribute to an estimation of excess operating costs. The Board chose this estimate, the largest in the record for excess operating expenses, to ensure that the functional obsolescence allowance was sufficient. Subtracting Mr. Sansoucy's excess operating expense estimate of \$2100 per mile from the appellant's estimate results in a shortfall of \$1500 per mile, which when multiplied by 939, the number of miles in the system, results in additional expenses before taxes of \$1,408,500. Incorporating Mr. Sansoucy's tax factor yields an after tax addition of \$845,100, which when capitalized at Mr. Sansoucy's chosen rate of 7.5% results in an additional reduction in value associated with excess operation and maintenance costs of

\$11,268,000. Adopting this approach, the additional sum for functional obsolescence reduces Mr. Sansoucy's figure for "Total Cost New Less Excess Construction, Physical Depreciation, Excess Operating Costs and Excess Maintenance for Personal Property" to \$375,109,000. Further adjustment is required to reflect the modification to the income-capitalization approach, discussed *infra*, that parallels the adjustment to the cost approach relating to excess operating and maintenance costs. This adjustment resulted in an indicated value under the income-capitalization approach of \$336,860,550. The reduction corresponds to a slight increase in Mr. Sansoucy's economic obsolescence adjustment to approximately 10.2%. The result is an economic obsolescence allowance of \$38,261,118, which when deducted from the adjusted cost new less depreciation sum of \$375,109,000, yields an adjusted indicated value of \$336,847,882 for personal property under the RCNLD approach. The Board rounded this sum to \$336,848,000.

Having found that Mr. Sansoucy's RCNLD analysis was sound in most respects, and having made adjustment for Mr. Sansoucy's error relating to estimation of excess operating and maintenance expenses, the Board found that the adjusted value of \$336,848,000 was a reliable reference from which to derive the fair cash value of the appellant's

personal property in Boston on the relevant assessment date.

a. Real Property Valuation Under the Cost Approach

The Board was not persuaded by the assessors' presentation as it related to estimation of the value of the appellant's real property under the cost approach. As noted previously, the land component of the property at Commercial Point was valued by Mr. Steven F. Foster. Mr. Foster is a Massachusetts Certified General Real Estate Appraiser whom the Board qualified as an expert in real estate valuation. Mr. Foster prepared an appraisal report relating to the land at Commercial Point, which he concluded consisted of approximately 37.97 acres of land, 34.45 of which he considered upland and 3.52 "watershed/tidal" land.¹⁹

Mr. Foster inspected the property and in reaching his valuation estimate considered regional economic factors, demand for office space, industrial and special purpose development sites, the role of the Commercial Point LNG facility within the appellant's supply and delivery system, various municipal data, zoning, and the nature of the surrounding neighborhood. Although he viewed the property

¹⁹ Mr. Foster's figures for the size of the parcel as a whole and upland area exceeded those presented by Mr. Logue by approximately 3.5 and 5.75 acres, respectively.

as a rare development opportunity based on its size and water accessibility, Mr. Foster believed that the property would be purchased on a non-contingent basis for industrial use, and thus concluded that an industrially related use was its highest and best use, assuming the land was vacant and available for development.

To arrive at his estimation of the property's fair market value, Mr. Foster considered use of the cost, sales-comparison and income-capitalization methodologies, and rejected the cost approach, as did the appellant's expert Mr. Logue, because he was to value the land only. Ultimately, Mr. Foster chose to use the sales-comparison and income-capitalization approaches, the former receiving substantially greater weight in Mr. Foster's reconciliation of value.

For his sales-comparison analysis, Mr. Foster identified six sales and one "offering" of waterfront property he considered comparable to the Commercial Point parcel. The parcel sizes for Mr. Foster's sales ranged from approximately 4.1 acres to 12.15 acres, with identified upland ranging from 3.95 acres to 7.90 acres. The properties' sale prices ranged from \$1,500,000 to \$3,365,000, or \$5.40 to \$18.93 per square foot of upland, Mr. Foster's chosen unit of comparison. The properties are

located in Quincy, Everett, Chelsea, Charlestown and East Boston, and their sales occurred between October 2002 and October 2007.²⁰ Mr. Foster made value adjustments to account for differences between these properties and the Commercial Point parcel with respect to market conditions at the time of sale, location and physical characteristics, the property interest acquired, and conditions of sale. Mr. Foster made these adjustments individually, then combined the individual adjustments to arrive at an adjusted price per square foot for each property. Based on these adjusted prices, Mr. Foster concluded that the value of the Commercial Point parcel was ten dollars per square foot of upland. Applying this value to the approximately 1,500,000 square feet that he had identified as upland, Mr. Foster arrived at an indicated value via the sales-comparison approach of \$15,000,000.

For his income-capitalization analysis, Mr. Foster identified seven land leases of parcels located in South Boston and Charlestown whose lease commencement dates ranged from June 1999 to October 2006. The lease terms ranged from five to twenty-five years, the parcel sizes from approximately two acres to approximately ten acres,

²⁰ Mr. Foster stated that he also gave consideration to thirteen sales of non-waterfront property which he identified in his appraisal report, but which he stated were not used to value the Commercial Point property.

and the rent from \$0.75 per square foot to \$2.25 per square foot. Mr. Foster did not specify adjustments to these purportedly comparable properties, but ultimately chose \$1.00 per square foot as the base rent he deemed appropriate for the Commercial Point parcel. Mr. Foster developed his capitalization rate with reference to improved property sales and published surveys, and employed a mortgage-equity analysis incorporating: a loan-to-value ratio of 75%; an equity-yield rate of 18%; loan amortization of 0.2249 over a ten-year holding period; and a change in value of 2% per year over the holding period. Based on his analysis, Mr. Foster arrived at a capitalization rate of 8.5%.

Applying a vacancy and collection loss adjustment of 10% to his estimated base rent of \$1,500,000 (one dollar per square foot for the 1,500,000 square feet of upland) Mr. Foster arrived at an effective gross income of \$1,350,000, from which he subtracted expenses of 5%, yielding a net-operating income of \$1,282,500. He then applied his chosen capitalization rate of 8.5% to arrive at an indicated value for the property of \$15,088,235, which he rounded to \$15,100,000.

Reconciling his two valuation approaches, Mr. Foster noted that he considered the income approach less reliable

because he found no sales of leased sites in the area, which he stated impaired his ability to understand how local investors analyzed leased land and whether, in fact, a viable market for the land existed. Mr. Foster also cited certain complications with his sales-comparison approach, including what he considered to be the uniqueness of the parcel at Commercial Point, and the limited number of sales of large waterfront property available for comparison. Ultimately, Mr. Foster arrived at an opinion of market value of \$15,000,000 as of the relevant assessment date, which he based primarily on his sales-comparison analysis.

In the section of his report entitled "Special Assumptions and Limiting Conditions," Mr. Foster states both that "[i]t is a hypothetical assumption of this appraisal that the land is vacant and available for development" and "[i]t is an extraordinary assumption . . . that the highest and best use of the property, as currently improved, is for continuation of its current use as a specialized LNG facility." Mr. Foster based the latter assumption on further assumptions regarding the property's long-standing specialized use, the importance of that use to the area's LNG delivery system, and the difficulty of siting the facility in a different location.

Mr. Foster, unlike Mr. Logue, did not unequivocally conclude that the highest and best use of the Commercial Point property was its current use. Rather, he posited that an industrially related use was its highest and best use, assuming the land was vacant and available for development, and sought to value the land on this basis. The Board found that, similar to Mr. Logue's appraisal, Mr. Foster's analysis amounted to a hypothetical valuation. Under no foreseeable circumstances would the property function as anything other than an LNG facility. This finding undermines the validity of Mr. Foster's highest-and-best-use analysis, because a property's highest and best use must be physically possible, legally permissible, financially feasible, and maximally productive. See THE APPRAISAL OF REAL ESTATE (12th ed. 2001) at 307. The Board found that these criteria, considered in the context of the substantial constraints on the use of the property, effectively preclude a finding of highest and best use other than the property's current use.

The Board also found that Mr. Foster's sales-comparison analysis was substantially flawed. For example, Mr. Foster's adjustments to his purportedly comparable sales were not consistent, as Mr. Foster failed to account for a deep-water dock with respect to one property although

he had for another, and made no adjustments to two properties unencumbered by AULs, despite having made a downward adjustment to another property similarly unencumbered. Further, Mr. Foster's testimony regarding the sale of one of his chosen properties fatally undermined his assertion that the sale was an arm's-length transaction. More specifically, the sale in question was to the City of Boston, and Mr. Foster acknowledged that the seller was subjected to political pressure to sell the property at its sale price. Despite Mr. Foster's contention that this sale was an arms-length transaction, the Board found that the compulsion associated with "political pressure" precluded such a conclusion, thereby rendering the transaction virtually useless as a comparable sale. The Board also struck from the record one of Mr. Foster's sales, which consisted of several parcels with mixed commercial and residential uses, and for which Mr. Foster made no inquiry regarding the allocation of sale price among the commercial and residential portions of the property.

The Board notes Mr. Foster's testimony that among his chosen comparables, he relied most upon two sales, the adjusted sales price per foot for which were \$7.02 and \$8.83. These prices were significantly below the ten dollar per square foot value he placed upon the property at

Commercial Point. Mr. Foster did not explain this discrepancy.

Given Mr. Foster's lack of reliance on his income-capitalization approach, as well the inherent shortcomings of the approach, of which he was aware, the Board placed no reliance on the analysis. In sum, the Board found and ruled that Mr. Foster's valuation of the parcel at Commercial Point did not provide sufficient probative evidence to establish the fair cash value of the property or to support the value of the property incorporated in Mr. Sansoucy's cost valuation methodology.²¹ Lacking a viable land value under the cost approach, the Board further found that the estimation of the value of real property in Mr. Sansoucy's RCNLD analysis was not reliable.

2. Sales-Comparison Approach

Mr. Sansoucy began his sales-comparison analysis by briefly discussing the history of the sale of natural gas utility property. He noted that prior to the 1990s, there were few sales of natural gas utilities or their property, but since then, accompanied by deregulation within the

²¹ Given the cited flaws in both Mr. Logue's and Mr. Foster's appraisals, and the Board's conclusions that neither appraisal provided a sufficient basis to establish the fair market value of the parcel at Commercial Point, the Board found it unnecessary to address the discrepancy between Mr. Logue's and Mr. Foster's cited parcel size of 34.47 and 37.97 acres, respectively, or their upland acreage of 34.45 and 28.7 acres, respectively.

industry, the number of sales increased markedly. These sales reflect consolidation among local transmission and distribution providers including many of those in the northeast where several mergers and purchases have been completed. Mr. Sansoucy identified twenty-two sales of gas utility property in the United States over the last decade, from which he chose six that he concluded were comparable to, and in one instance included, the property at issue in these appeals. These sales, all of which were within three years of the relevant assessment date, are reflected in the following table.

	Sale 1	Sale 2	Sale 3	Sale 4	Sale 5	Sale 6
Seller/grantor	Colonial Gas Co.	EnergyNorth Inc.	Essex Gas	Eastern Enterprises	Fall River Gas Co.	Providence Energy
Buyer/Grantee	Eastern Enterprises	Eastern Enterprises	Eastern Enterprises	Key Span Corp.	Southern Union Co.	Southern Union Co.
Announcement Date	10/17/1999	7/14/1999	12/19/1997	11/4/1999	10/4/1999	11/15/1999
Sale	8/31/1999	11/8/2000	9/30/2000	11/8/2000	9/28/2000	9/28/2000
Sale Price (000)	\$474,000	\$248,611	\$113,361	\$2,251,622	\$82,250	\$360,000
Depreciated Original Cost of Plant Equipment (Net Book)(000)	\$274,532	\$107,282	\$79,518	\$975,749	\$43,949	\$218,190
Adjusted Purchase Price of Net Book & Equipment (000)	\$359,541	\$200,743	\$100,133	\$1,709,001	\$70,516	\$280,157
Gross Revenue (000)	\$187,140	\$109,926	\$53,535	\$935,264	\$42,082	\$225,029
Customers	154,500	72,000	42,348	740,000	48,000	174,000
Gross Revenue/Customer	\$1,211	\$1,527	\$1,264	\$1,264	\$877	\$1,293
Adjusted Purchase Price of Net Book & Equip/Customer (Price/Customer)	\$2,327	\$2,788	\$2,365	\$2,309	\$1,469	\$1,610
Sale Price/Net Book	1.73	2.32	1.43	2.31	1.87	1.65
Adjusted Sale Price/Net Book	1.31	1.87	1.26	1.75	1.60	1.28
Sale Price/Gross Revenue	2.53	2.26	2.12	2.41	1.95	1.60
EBITDA (\$000)	\$44,877	\$18,657	\$11,984	\$175,926	\$5,428	\$38,386

As part of his analysis, Mr. Sansoucy sought to separate the components of each transaction that did not relate to real and personal property, excluding items such as cash, receivables, current assets and liabilities, and pension liabilities. During his testimony, Mr. Sansoucy

used the 1999 sale of Colonial Gas Company to Eastern to illustrate this process. The sale price in this transaction consisted of \$150,000,000 in cash, \$186,000,000 of new stock, and \$138,000,000 of assumption of debt, for a total price of \$474,000,000. From this sum, Mr. Sansoucy deducted "current assets," including Colonial's cash and cash equivalents, receivables, other accrued revenues, gas and other inventories, and cash prepayments. He also deducted "other assets" owned by Colonial, which included items such as tax credits, pension assets and deferred debits. The sum of these assets, \$114,459,000, when deducted from the sale price of \$474,000,000, left \$359,541,000, representing payment for the balance of the company's assets, which Mr. Sansoucy stated were comprised almost exclusively of plant and equipment, and which are rate-regulated property.

Mr. Sansoucy considered several units of comparison he deemed relevant to estimating the value of Boston Gas' property in Boston including gross revenue per customer, adjusted purchase price per customer and the following ratios: sale price to gross revenue; sale price to

net book value; and adjusted sale price to net book value.²² These units of comparison are reflected in the above table, which depicts various elements of the transactions. Among these measures, Mr. Sansoucy placed particular importance on the adjusted sale price to net book value ratio, consistent with his discussion of the Colonial sale and the analysis he used to arrive at an adjusted sale price, which approximated the value of regulated assets. Mr. Sansoucy calculated that among his chosen sales, this ratio ranged from 1.26 to 1.87, and the 2000 sale of Eastern to KeySpan Corporation took place at what he concluded was an adjusted sale price to net book ratio of 1.75.²³ Based on these calculations, Mr. Sansoucy concluded that 1.70 times net book value was an appropriate multiple for valuation of the personal property at issue.

²² Mr. Sansoucy also developed a sale price to EBITDA ratio from his chosen comparable sales. EBITDA, which is an abbreviation for Earnings before Interest, Taxes, Depreciation and Amortization, is calculated by taking operating income and adding back interest, depreciation and amortization expenses, and is integral to Mr. Sansoucy's income-capitalization analysis, discussed *infra*.

²³ Mr. Sansoucy acknowledged during cross examination that in his analysis of the KeySpan acquisition of Eastern, he had erred while calculating the sale price to net book ratio by excluding the net book cost of Colonial Gas, which had previously been acquired by Eastern. The appellant asserted that correction of this error resulted in a sale price to net book ratio of 1.18 instead of 1.75. The appellant's calculations, however, failed to account for the acquisition premium associated with the Colonial sale. Inclusion of this sum in the calculation increases the ratio to approximately 1.49. The assessors argued for inclusion of the acquisition of EnergyNorth in the Keyspan transaction calculation, which they characterized as an "additional component" of the transaction. The Board found, however, that there was insufficient evidence to conclude that the EnergyNorth transaction should be considered part of the Keyspan transaction for purposes of Mr. Sansoucy's analysis.

Mr. Sansoucy therefore multiplied the personal property's rounded net book value of \$159,157,000 by 1.70 to arrive at an indicated value for the property of \$272,000,000 under the sales-comparison approach.

The Board found that Mr. Sansoucy's sales-comparison methodology required adjustment to account for the discrepancy between his stated adjusted sale price to net book ratio of 1.75 for the KeySpan acquisition, and what the Board found to be the correct ratio of 1.49. Using this corrected value and the values for the remaining five transactions, the Board found that 1.47, the average of these values, was an appropriate ratio. Thus, by multiplying \$159,157,000 by 1.47, the appropriate indicated value would be \$233,960,790 under Mr. Sansoucy's sales-comparison approach.

In his reconciliation of market value, Mr. Sansoucy concluded that the sales-comparison approach understated the value of the personal property in Boston because his developed net book ratio did not account for the amount of new pipe added by Boston Gas from 2003 to 2006, which resulted in large depreciation expenses being taken by the appellant. To illustrate his point, Mr. Sansoucy stated that for fiscal years 2004 through 2006, approximately \$60,000,000 of pipe was added to the system, yet the net

book cost of pipe increased by only \$14,724,000. On cross-examination, Mr. Sansoucy acknowledged an error in this calculation resulting in understatement of his stated increase in net book value by approximately 33%. This error, however, did not substantially undermine Mr. Sansoucy's assertion that the large depreciation expense effectively reduced the valuation under the sale-comparison approach.

3. Income-Capitalization Approach

Mr. Sansoucy began his income-capitalization approach with an analysis of the appellant's revenue and expenses for the years 1997 through 2003, as reflected in the following table.

1	Description	1997 (000)	1998 (000)	1999 (000)	2000 (000)	2001 (000)	2002 (000)	2003 (000)
2	TOTAL RETAIL SALES OF GAS	\$207,000	\$191,635	\$153,389	\$99,613	\$222,575	\$147,471	\$228,826
3	TOTAL OTHER OPERATING REVENUE	\$7,557	\$11,321	\$14,877	\$10,198	\$4,274	\$16,923	\$9,658
4	TOTAL OPERATING REVENUE	\$214,557	\$202,957	\$168,266	\$109,811	\$226,849	\$164,393	\$238,484
5	TOTAL COST OF GAS	\$122,480	\$108,516	\$83,336	\$58,322	\$153,138	\$89,135	\$158,668
6	OPERATING EXPENSES OTHER THAN COST OF GAS	\$41,772	\$39,052	\$36,180	\$27,819	\$34,732	\$31,493	\$31,295
7	MAINTENANCE EXPENSE	\$5,857	\$6,590	\$6,540	\$4,928	\$7,927	\$7,967	\$7,790
8	DEPRECIATION	\$11,930	\$13,861	\$11,027	\$7,453	\$13,306	\$12,326	\$14,875
9	AMORTIZATION OF UTILITY PLANT	\$1,942	\$1,896	\$1,627	\$1,093	\$6,316	\$979	\$1,365
10	AMORTIZATION OF UTILITY ITCs	-\$277	-\$282	-\$239	-\$141	\$0	\$0	\$0
11	TAXES OTHER THAN INCOME TAXES	\$7,912	\$8,367	\$7,383	\$3,926	\$6,450	\$4,476	\$4,977
12	INCOME TAXES	\$4,905	\$6,936	\$5,134	\$2,088	\$5,786	-\$13,804	-\$13,284
13	PROVISION FOR DEFERRED FEDERAL INCOME TAXES	\$775	-\$383	\$360	-\$1,120	-\$8,264	\$14,654	\$16,761
14	TOTAL OPERATING EXPENSES	\$197,295	\$184,552	\$151,348	\$104,369	\$219,436	\$147,226	\$222,446
15	NET OPERATING INCOME BEFORE INCOME TAX	\$17,262	\$18,404	\$16,918	\$5,442	\$7,412	\$17,167	\$16,038
16	TOTAL INCOME TAXES	\$5,680	\$6,552	\$5,494	\$969	-\$2,478	\$851	\$3,476
17	NET OPERATING INCOME	\$11,582	\$11,852	\$11,424	\$4,473	\$9,891	\$16,316	\$12,562
18	EBIDTAA	\$36,537	\$40,432	\$34,827	\$14,816	\$24,556	\$31,323	\$35,755
19	EBI AS A PERCENTAGE OF TOTAL OPERATING REVENUE	17.03%	19.92%	20.70%	13.49%	10.82%	19.05%	14.99%
20	EXPENSE RATIO	85.62%	83.58%	82.29%	90.59%	94.98%	86.32%	89.73%
21	NO. OF CUSTOMERS	146,783	147,773	149,601	150,465	151,717	151,314	152,900
22	GAS SALES IN CITY OF BOSTON	\$214,557	\$202,957	\$168,266	\$109,811	\$226,849	\$164,393	\$238,484
23	BOSTON SALES AS A PERCENTAGE OF GROSS REVENUE	30.61%	33.25%	28.39%	16.72%	27.37%	25.72%	25.92%

As part of this analysis, Mr. Sansoucy derived an estimate of EBIDTA for Boston based on the ratio of Boston's operating revenue relative to the operating revenue of the system as a whole. This analysis yielded an average EBIDTA of \$31,100,000 for the seven years considered. Mr. Sansoucy chose to remove the years 2000 and 2001 from his EBIDTA calculations, having concluded that the EBIDTA figures for those years were anomalous.²⁴ ²⁵The average EBIDTA for the remaining five years was \$35,700,000. Factoring in his estimate of \$5,500,000 per year for excess operating and maintenance costs arrived at in his cost analysis, Mr. Sansoucy chose to employ an EBIDTA for Boston of \$30,000,000.

Having arrived at what he considered to be a conservative EBIDTA for Boston, Mr. Sansoucy used an EBIDTA multiplier (ratio of EBIDTA to net book value) derived from his comparable-sales analysis to derive an indicated value for the property at issue. The EBIDTA multipliers for Mr. Sansoucy's chosen comparable sales ranged from 9.38 to

²⁴ EBIDTA for the years not excluded from the calculation ranged from \$31,323,000 to \$40,432,000; for 2000 and 2001, they were \$14,816,000 and \$24,556,000, respectively.

²⁵ For 2000, Mr. Sansoucy determined that the appellant had underreported total revenue in Boston, thereby altering the EBIDTA calculation. Mr. Sansoucy removed 2001 because of discrepancies relating to depreciation and amortization.

15.15. The mean and median multipliers were 11.78 and 11.68, respectively. Mr. Sansoucy chose 11.7 as an appropriate multiplier. This figure, multiplied by \$30,000,000, the EBIDTA for Boston derived by Mr. Sansoucy, yielded an indicated value of \$351,000,000 under the income-capitalization approach, which Mr. Sansoucy rounded to \$350,000,000.

The Board found that Mr. Sansoucy's income-capitalization approach was generally sound, however, his estimate of excess operating and maintenance costs should be adjusted in a manner similar to the adjustment made to his RCNLD approach. More specifically, applying the appellant's excess expense figure to each mile of pipe in the Boston region would increase Mr. Sansoucy's \$5,500,000 sum for excess operating costs to approximately \$6,908,500. This sum is arrived at by applying the \$1500 per mile expense shortfall associated with Mr. Sansoucy's methodology, as determined by the Board, to the 939 miles of pipe in Boston, to arrive at an additional expense of \$1,408,500. The EBIDTA for Boston is in turn derived by subtracting the adjusted expense figure of \$6,908,500 from the average EBIDTA of \$35,700,000 employed by Mr. Sansoucy to arrive at an adjusted EBIDTA for Boston of \$28,791,500.

Applying Mr. Sansoucy's chosen EBIDTA multiplier of 11.7 yields an indicated value of \$336,860,550.

The Board found that Mr. Sansoucy's income-capitalization analysis, although it required adjustment, was generally reliable. The Board also found that the income-capitalization approach, which is not typically used to estimate the value of special purpose property, was better suited as support for the value derived under the cost approach rather than as the primary valuation methodology.

B. David J. Effron

David J. Effron, a consultant with Berkshire Consulting Services, and a Certified Public Accountant licensed in New York, whom the Board qualified as an expert on utility accounting and the impact on rates of various utility transactions, testified on behalf of the assessors. Prior to his testimony in the present matters, Mr. Effron had presented testimony in more than 250 cases, primarily on behalf of state agencies before public utility commissions regarding a variety of public utility matters. Mr. Effron's testimony focused on three transactions involving rate-regulated gas utilities as follows:²⁶

²⁶ The transactions involved primarily gas utility property located in Rhode Island and within the regulatory jurisdiction of the Rhode Island Public Utilities Commission ("RIPUC"). Mr. Effron testified that, with

Transaction/Date	Assets	Sale Price	Book ²⁷	Acquisition Adjustment	Price/ Net Book Value
Southern Union Merger with Valley Resources 1/27/2000	Valley Gas Company Bristol Gas Company	\$160,000,000	\$37,500,000 \$35,400,000 \$72,900,000	\$87,100,000	2.2
Southern Union Merger with Providence Energy 1/27/2000	Providence Gas Company N.Attleboro Gas Company ²⁸ Providence Energy Service Company Providence Energy Fuel Company	\$400,000,000	\$98,000,000 \$140,700,000 \$238,700,000	\$248,400,000	1.7
National Grid Acquisition of New England Gas 3/16/2006	Providence Gas Company Valley Gas Company Bristol Gas Company Small Appliance Company	\$575,000,000	\$248,000,000 \$77,000,000 \$325,000,000	\$250,000,000	1.8

Mr. Efron noted that in the first two transactions, which were both completed on January 27, 2007, Southern Union paid acquisition premiums vastly in excess of the acquired entities' net book values. After these transactions were completed, Providence Energy and Valley Resources, which had been holding companies, ceased to

respect to regulated utilities, the regulatory framework in Rhode Island was similar to that in Massachusetts. He noted that the RIPUC would not allow an explicit recovery of an acquisition premium in rates, whereas in Massachusetts, no such outright prohibition exists.

²⁷ Where two numbers appear before a total in this column, the top number represents the assets' net book value, and the bottom, the amount of debt assumption.

²⁸ Removal of North Attleboro Gas Company assets from this chart results in reduction of the net book value and the debt acquisition figures for the transaction by \$1,000,000 and \$900,000, respectively. The North Attleboro Company, which operated in Massachusetts, was not acquired by National Grid in the 2006 transaction.

exist and became an unincorporated division of Southern Union known as New England Gas. In 2006, National Grid, through its subsidiary Narragansett Electric Company, acquired New England Gas in a transaction also involving a substantial acquisition premium.²⁹

With respect to the 2006 transaction, National Grid did not request inclusion of the acquisition premium in its rate base. Rather, the company proposed that its rate plan allow retention of a share of the established savings resulting from the transaction to allow recovery of the acquisition premium, a position Mr. Effron accepted during the proceedings relating to the matter.

During his testimony, Mr. Effron acknowledged that these transactions were so-called "enterprise" sales, involving all the entities' assets. Mr. Effron also stated that the 2006 transaction involved the sale of four unregulated subsidiaries. The evidence presented, however, did not suggest that the subsidiaries contributed to the sale price in a meaningful way, and the Board found that Mr. Effron credibly testified that the acquisition premiums were primarily associated with the purchase of regulated assets.

²⁹ Mr. Effron was involved with and submitted testimony regarding the 2006 acquisition of New England Gas as it related to the rate plan associated with the transaction.

C. Glenn C. Walker

Glenn C. Walker, an employee of Sansoucy E&A, testified on behalf of the assessors regarding Mr. Sansoucy's Report, which he "co-authored." The Board qualified Mr. Walker, a Massachusetts Certified General Real Estate Appraiser, as an expert in utility valuation issues and as a general appraiser. Mr. Walker testified generally about his work reviewing, contributing to and ratifying the valuation methodologies employed in Mr. Sansoucy's appraisal report, as well as his development of the figures in Appendix H to the report, which involved development of capitalization rates used by Mr. Sansoucy. The Board found that Mr. Walker's testimony supported Mr. Sansoucy's testimony, but offered little substance beyond what had already been testified to by Mr. Sansoucy.

V. Board's Additional Findings

The appellant's case, as largely represented in the testimony of Dr. Tierney and supporting witnesses, rests upon a direct and simple premise, namely that the fair market value of rate-regulated utility property is limited to its net book value. In support of this assertion, the appellant focuses on the distinction between sales of rate-

regulated utility assets and so-called "enterprise sales," claiming that the seemingly ubiquitous acquisition premiums associated with recent transactions involving regulated utilities reflect payment for something other than regulated tangible assets. According to the appellant, such payment may be for other businesses, including unregulated businesses, which may comprise part of an acquisition or merger. It may also represent value inherent in the operating company, or intangibles including, *inter alia*, intellectual property, brand name, management acumen and customer base.

The assessors assert that examination of transactions in the marketplace and evolution of regulatory policy and case law³⁰ inevitably lead to the conclusion that the fair market value of the personal and real property at issue in these appeals substantially exceeds its net book value. Through the testimony and appraisal report of Mr. Sansoucy, whom the Board found to be a credible witness, the assessors offered examples and analysis of several transactions involving regulated utilities, one of which was the acquisition of Eastern by Keyspan in 2000. Each of these transactions involved substantial acquisition

³⁰ Relevant case law and regulatory policy are discussed in the Opinion section of this Findings of Fact and Report.

premiums, which the assessors assert are primarily connected with the value of the utilities' tangible assets, and not simply elements of enterprise value. The Board found that the assessors' evidence supports this assertion. The Board also took note of the various regulatory filings and pre-filed testimony relating to DPU regulatory proceedings, which provided confirmation of the analysis of the assessors' experts.

With regard to the utility transactions examined during the hearing of these appeals, Mr. Sansoucy's analysis accounted for assets unrelated to rate-regulated property, including acquired entities unrelated to a utility's core business, as well as assets with identifiable value including "current assets" consisting of cash and cash equivalents, receivables, other accrued revenues, gas and other inventories, cash prepayments, and "other assets," which include items such as tax credits, pension assets and deferred debits. By this process, Mr. Sansoucy isolated the value of plant and equipment, all of which is rate-regulated utility property. While Mr. Sansoucy's analysis was not without error, such error did not undermine the assessors' central assertion that purchasers had paid substantially more than net book value for rate-regulated property.

The Board also viewed the assessors' evidence in light of the appellant's assertions regarding the primacy of net book value in valuation of rate-regulated assets and the fundamental distinction between a regulated utility's enterprise value and the value of its regulated assets.³¹ In particular, the Board found that neither the appellant nor the balance of the evidence demonstrated that unrelated businesses, regulated or otherwise, accounted for all or even an appreciable portion of the acquisition premiums associated with the transactions examined by Mr. Sansoucy and Mr. Efron.

The Board also considered the potential value associated with the intangibles cited by Dr. Tierney as contributing to enterprise value, and how such value may have accounted for part or all of the acquisition premiums connected with the transactions considered by Mr. Sansoucy and Mr. Efron. In this regard, Dr. Tierney could not recall an instance of intellectual property owned by or appearing on the books of a public utility. Further, no intellectual property appears in the accounts of the appellant. Similarly "brand name" appears to hold no discernable value in the present case, as demonstrated by

³¹ In weighing the evidence, the Board considered that the appellant did not present an appraisal or testimony from an individual qualified as an expert in appraising special purpose utility property.

the change of name from Boston Gas to KeySpan on visible assets (including the LNG tank at Commercial Point), which change was contemporaneous with KeySpan's acquisition of Eastern. Had the brand name held value, it presumably would have remained in use. With regard to customer base, it is difficult to discern how a regulated utility's essentially captive customer base adds value to its enterprise, and the appellant has offered no evidence of such value. Finally, the appellant failed to specify, with reference to any entity examined in these appeals, including itself, how and to what extent the intangible components of an enterprise contributed to fair market value. In turn, the Board could not determine how and to what extent such value may have been distinct from the fair market value of the appellant's rate-regulated utility property, which is the subject of these appeals.

In sum, the Board found that the assessors demonstrated special circumstances arguing against net book value as the determinant of fair cash value in these appeals, and provided a method useful to derive the value of the personal property. In contrast, the appellant failed to offer persuasive evidence of the fair cash value of the property at issue, and in particular did not present expert testimony from a qualified appraiser of utility property.

Based on these subsidiary findings, the Board found and ruled that the appellant failed to meet its burden of demonstrating that the assessed value of the property at issue in these appeals exceeded its fair cash value for fiscal year 2004. The Board also found that the evidence presented provided a sufficient basis to estimate the fair cash value of the personal property. More specifically, as discussed, *supra*, the Board found that Mr. Sansoucy's RCNLD analysis, although not without error, was fundamentally sound. The Board made adjustment to this analysis to account for Mr. Sansoucy's error in estimating the diminution in value associated with Boston Gas' excess operating and maintenance expenses in Boston. Having made this adjustment, the Board arrived at an adjusted value of \$336,848,000 under Mr. Sansoucy's cost approach. The Board next took into account the contemporaneous regulatory environment and case law, discussed *infra*, as well as the balance of the evidence, particularly that relating to several utility sales and their associated acquisition premiums, and determined that a valuation methodology affording equal weight to RCNLD and net book value yielded a reliable estimate of the fair cash value of the personal

property.³² The Board adopted this combined approach as a reasonable method to account for, *inter alia*, the residual value of the high proportion of fully depreciated pipe in Boston that had substantial remaining useful life, as well as demonstrated capability to increase earnings through PBR and expense reduction. In this manner, the Board found that the fair cash value of the personal property was \$248,000,000 as of the relevant assessment date.

The Board was not able to determine the fair cash value of the real property at Commercial Point. As discussed, *supra*, neither Mr. Logue's nor Mr. Foster's appraisals, both of which the Board found were substantially flawed, provided a sufficient basis to establish a value different from what the assessors had derived for the parcel at Commercial Point. Absent a reliable estimate of the contributory value of the land component of the property at Commercial Point, valuation of the real property as a whole was not possible.

³² As previously noted, the adjusted value of the personal property under Mr. Sansoucy's RCNLD methodology was \$336,848,000 and the net book value of the property was \$159,157,892. When added together and divided by two to comport with the Board's 50%/50% weighting, these sums yield an indicated value of \$248,002,946, which the Board rounded to \$248,000,000.

VI. Summary

On the basis of the evidence presented and reasonable inferences drawn therefrom, as well as pertinent statutes, regulations, case law and regulatory decisions, the Board found and ruled that: it had jurisdiction to hear and decide these appeals; through presentation of evidence and the testimony of its various witnesses, the appellant failed to demonstrate that the fair cash value of the property considered in these appeals was limited to its net book value, or to sustain its burden of establishing that the property's value was less than its assessed value for fiscal year 2004; the assessors presented substantial evidence demonstrating that a potential buyer would pay more than net book value for the personal property at issue in these appeals; Mr. Sansoucy's adjusted RCNLD valuation methodology and net book value, at a one-to-one ratio, provided an appropriate method to value the personal property; based on the combination of RCNLD and net book value, the fair cash value of the personal property as of January 1, 2003 was \$248,000,000, which exceeded its assessed value of \$223,200,000; and the evidence of record did not provide a sufficient basis to estimate the fair cash value of the Commercial Point property.

Accordingly, given the presumed validity of the assessments, the appellant's failure to meet its burden of proof, the Board's findings regarding the fair cash value of the personal property, and for the reasons discussed in the following Opinion, the Board decided these appeals for the appellee.

OPINION

I. Regulatory Environment and Burden

"All property, real and personal, situated within the commonwealth . . . shall be subject to taxation." G.L. c. 59, § 2. Assessors are required to assess real estate and personal property at their fair cash value. G.L. c. 59, § 38. The measure by which fair cash value is determined for taxation purposes is "the fair market value, which is the price an owner willing but not under compulsion to sell ought to receive from one willing but not under compulsion to buy.'" *Taunton Redevelopment Associates v. Board of Assessors of Taunton*, 393 Mass. 293, 295 (1984), (citing *Boston Gas Co. v. Board of Assessors of Boston*, 334 Mass. 549, 566 (1956)). "A proper valuation depends on a consideration of the myriad factors that should influence a seller and buyer in reaching a fair

price." *Montaup Electric Co. v. Board of Assessors of Whitman*, 390 Mass. 847, 849-50 (1984).

The burden of proof is upon the appellant to make out its right as a matter of law to an abatement of tax. *Schlaiker v. Board of Assessors of Great Barrington*, 365 Mass. 243, 245 (1974). The appellant must demonstrate that the assessed valuation of its property was improper. See *Foxboro Associates v. Board of Assessors of Foxborough*, 385 Mass. 679, 691 (1982). An assessment is presumed valid until the taxpayer sustains its burden proving otherwise. *Schlaiker*, 365 Mass. at 245. An owner of special-purpose property, which may present atypical valuation problems, retains the burden of proof. *Foxboro Associates* 385 Mass. at 691; *Reliable Electronics Finishing Co. v. Board of Assessors of Canton*, 410 Mass. 381, 382 (1991).

Assessors also bear a burden with respect to the valuation of utility property, upon which a buyer's return has been limited by the seller's "rate base." See *Boston Edison Company v. Board of Assessors of Watertown*, 387 Mass. 298, 305 (1982) ("Watertown"). This burden is reflected in the requirement that an assessor present "evidence showing that a potential buyer would pay more than the net book value" for utility property. *Tennessee Gas Pipeline v. Board of Assessors of Agawam*, 428 Mass.

261, 263 (1998). Absent provision of such evidence, "net book value is the proper valuation method." *Id.* The Court in *Montaup Electric* stated that a "taxpayer, which is a regulated utility, should not be required to establish the lack of special circumstances . . . until there is some evidence offered by the assessors to show that, because of such circumstances, the relevance of [net book value] is put in question." *Montaup Electric*, 390 Mass. at 855. Once the assessors provide "'some evidence . . . to show that, because of such circumstances, the [net book value] is put in question'" the taxpayer must show "the absence of such circumstances." *Tennessee Gas Pipeline*, 428 Mass. at 264, (citing *Montaup Electric*, 390 Mass. at 855.)

The basis of these parallel burdens is the so-called "carryover-rate-base" rule, which bases rates that a purchasing utility may charge on the net book value of the property of the seller. The Federal Energy Regulatory Commission ("FERC") described the rule as "adopted in response to widespread abuses in the electric utility industry that arose through the practice of selling properties at large profits to other public utilities followed by the acquiring utility's inflating plant accounts (and rate base) by the premium paid. The result of this practice was that ratepayers paid higher rates for

electric service but received no increase in benefits." **In Re: Minnesota Power & Light Co.**, 43 F.E.R.C. ¶ 61,104 (1988). The carryover-rate-base rule weighed heavily in **Watertown**, in which the Court considered an appeal by Boston Edison Company related to its rate-regulated distribution property. More specifically, the Court highlighted the "particular significance" of "the apparently longstanding position of the [DPU] that, if a regulated utility sells an asset to another regulated, public utility, the basis for that asset in the hands of the transferee remains the same as that of the transferor for rate-making purposes." **Watertown**, 387 Mass. at 301. Thus, the transferee "would be allowed a return on the transferred property based on that property's net book, or rate base value, and not on any higher purchase price it might have paid." **Id.** Notwithstanding these statements, the Court in **Watertown** declined to set an upper limit on value tied to an entity's rate base. While it placed significant weight on the net book cost of utility property in determining the value of rate-regulated utility property, the Court concluded that "net book cost of [] property does not set an upper limit on the property's value for local taxation purposes," and noted that several other state courts had rejected the notion that the fair cash value of

a regulated utility's property is limited to its net book value. *Id.* at 302-303.

As part of its analysis, the Court offered specific considerations that would warrant departure from use of net book cost to value utility property, including: 1) when the rate of return on an investment in the property may or is expected to exceed the current rate; 2) when the rate of return may exceed the market rate of return for an investment of similar risk; 3) when there is a possibility that the law or regulatory decisions might change to make an investment in the property more attractive; 4) when there is potential for utility growth; and 5) when there is a possibility of finding an unregulated buyer. *Id.* at 305-306.

In the years since *Watertown*, the Supreme Judicial Court and this Board have considered several cases involving valuation of rate-regulated utility property and each, in some way, has illustrated the development of Massachusetts regulatory policy and the trend away from a strict carryover-rate-base valuation model.

In *Boston Edison Company v. Assessors of Boston*, 402 Mass. 1 (1988) ("*Boston Edison*"), the Court reviewed the Board's decision to estimate the fair cash value of Boston

Edison's generating plant in Boston by affording equal weight to the net book cost and the depreciated reproduction cost methodologies. In ***Boston Edison***, the appellant argued that "net book value, or something not much above it, sets the fair market value of the real estate" and the assessors claimed that "net book cost ha[d] no relevance on the record." ***Id.*** at 12-13. Affirming the Board's approach to valuation, the Court noted that "the [B]oard not unreasonably saw in the decision of the Department of Public Utilities that we upheld in [*Attorney Gen. v. Department of Pub. Utils.*, 390 Mass. 208 \(1983\)](#), the possibility that the department might allow adjustments in a purchaser's rate base to reflect a prudent purchase price above the plant's net book cost." ***Id.*** at 15. Indeed, the Court stated "[w]e are surprised at the [B]oard's comment that this court has an 'apparent commitment to the carry-over rate-base limitation.' We have no such commitment." ***Id.*** at 15 (additional citation omitted).

This Board, in ***Boston Edison Company v. Board of Assessors of the City of Everett***, Mass. ATB Findings of Fact and Reports, 1996-759, ("***Boston Edison/Everett***"), considered valuation of utility property subject to rate regulation, in large part consisting of an electrical

generating station in Everett, as well as "the regulatory environment for and potential purchasers of electric utilities." *Id.* at 813. As part of its analysis, the Board traced federal regulatory precedent relating to the carryover-rate-base policy in a detailed discussion of several FERC and Federal Power Commission (FERC's predecessor) cases. In particular, the Board cited FERC decisions involving "more than a half century of exceptions to the carry-over rate-base rule" and movement "in the early to mid-1980s . . . to a market based ratemaking policy, while still maintaining its practice of granting exceptions, on a case by case basis, to the carry-over rule." *Id.* at 827. Notably, the Board also cited FERC's observation that "Massachusetts was leading the way to regulatory reform with its de-emphasis on the cost-of-service approach to ratemaking," stating that "FERC regarded Maine and Massachusetts as the 'leaders in developing the concepts of competitive procurement.'" *Id.* at 833, (citing *In re: Enron Power Enterprise Corp.*, 52 F.E.R.C. ¶ 61,193 at 61,710 (1990)).

In its discussion of Massachusetts regulatory policy, the Board noted that in April of 1982, when faced with the question of how to treat costs associated with the Pilgrim II nuclear power plant, which had never been completed, the

DPU chose to examine its cost-based ratemaking policy and its prior adherence to a "used and useful" standard under which a utility could only collect costs associated with a new electric generating facility after it was operative. The DPU, seeking to avoid what it characterized as a "perverse incentive" to complete plant construction regardless of cost, looked to other jurisdictions and noted that "'what [was] becoming increasingly more uniform nationwide [was] the treatment represented by the most recent decision of [FERC]. That treatment allow[ed] recovery of all *prudently incurred costs* in connection with the canceled plant.'" *Id.* at 835, (citing *Re Boston Edison Co., D.P.U. 906*, 46 P.U.R. 4th 431, 436 (1982)) ("*Pilgrim*") (emphasis in original). Thus, the DPU allowed Boston Edison to recover costs associated with the construction of Pilgrim II it deemed "prudently incurred," even though the plant had not been completed and the assets in question did not satisfy the established "used and useful" standard.

The Board also looked to several DPU decisions including a series docketed as *D.P.U. 86-36*. The Board noted that in the *D.P.U. 86-36* series, DPU favored a "pre-approval" approach over the "used and useful" standard, concluding that:

The cost accounting principles used to establish rates for utility services under cost of service regulation, however, generally fail to incorporate successfully the underlying forces of efficiency inherent in competitive markets. Strict adherence to cost of service principles will result in prices which reflect whatever level of inefficiency is inherent in the firm's accounting costs.

D.P.U. 86-36-1 at 10.

The Board observed that the *D.P.U. 86-36* series focused primarily on "construction and major generation plant investments," but concluded that the series "still provided an insight to a potential purchaser on how the Massachusetts DPU might consider the question of cost recovery when an existing or substantial portion of an existing generating station is sold from one [regulated utility] to another." *Boston Edison/Everett*, Mass. ATB Findings of Fact and Reports, 1996-759 at 837. In this regard, the Board cited "[a]n affidavit from former Massachusetts DPU Commissioner Susan F. Tierney stat[ing] that any such question "would have been considered on a case-by-case basis." *Id.* at 837-38.

Taking into account DPU's decision in *Pilgrim*, the Supreme Judicial Court's decision in *Boston Edison*, and various DPU decisions, and having noted a marked departure from strict adherence to previously established cost-based

rate determinations, the Board adopted a valuation methodology in *Boston Edison/Everett* based on a two-to-one ratio of depreciated replacement cost new to net book cost.

Soon after *Boston Edison/Everett*, the Supreme Judicial Court had the opportunity to review DPU's valuation of rate-regulated utility property in *Stow Municipal Electric Department v. Department of Public Utilities*, 426 Mass. 341 (1998). In *Stow*, the Court considered the DPU's valuation of Stow's electricity distribution system, which the town had voted to "municipalize" and had previously been owned by the Town of Hudson. Stow, the buyer, asserted that original cost less depreciation (net book cost) was the sole acceptable method to value the system under applicable law and the Court's precedent, while Hudson argued that depreciated reproduction cost was the appropriate measure of the property's value. Stow petitioned the DPU for a determination of purchase price and damages, if any.

The DPU, under G.L. c. 164, § 43, was charged with "[setting] a purchase price that represent[ed] a 'fair value'". *Id.* at 345. Applying this standard, the DPU chose to weight equally the RCNLD and original cost less depreciation valuation methodologies. The Court affirmed the DPU's approach stating:

The department's 50% weighting of reproduction cost new less depreciation was well within its discretion. First, the statute permits the department to consider "any other element which may enter into a determination of a fair value" in addition to the original cost. Reproduction cost new less depreciation, the current cost (less depreciation) of the materials and labor to reproduce the system, is such an element. We have said that reproduction cost is "probative of fair cash value" of utility property. (citations omitted).

Id. at 345-46

The Court went on to state that "in other cases involving valuation of utility property, [it had] approved valuations combining original cost less depreciation and reproduction cost new less depreciation." *Id.* at 346. Moreover, the Court explicitly rejected Stow's argument that the DPU, in its deliberations, had "impermissibly speculated by discussing possible regulatory change," stating that:

The department specifically considered its carry-over rate base policy, which it has recently changed from a mandatory rule always limiting a buyer of utility property to the seller's rate base to a case-by-case determination. We certainly cannot fault the department for considering the effect of this change and concluding that because the carry-over rate base rule might not apply to Stow, Stow should pay more than original cost less depreciation.

Id. at 347.

In sum, the Court explicitly affirmed the DPU's valuation of regulated utility property, which was well

above net book value. This value was premised upon a distinct shift by the DPU from its prior regulatory policy "limiting a buyer of utility property to the seller's rate base to a case-by-case determination." *Id.* Further, the Court affirmed the probative value of the RCNLD approach toward valuation of utility property. *Id.* at 345-46.

In a 1999 case, holding companies that owned Boston Edison Company and several other companies sought rate approval in anticipation of a merger to create Nstar. See *Joint Petition of Boston Edison Company et al, D.T.E. 99-19*. As part of the petition, the entities involved requested recovery of an acquisition premium through customer rates, and made the merger contingent upon allowance of the request. As part of its decision allowing the recovery, the DPU stated its policy regarding recovery of acquisition premiums:

The Department has stated that it will consider individual merger or acquisition proposals that seek recovery of an acquisition premium as well as the recovery level of such premiums, on a case by case basis (citations omitted). Under the Department's G.L. c. 164, § 96 public interest standard, a company proposing a merger or acquisition must demonstrate that the costs of the transaction are accompanied by benefits that warrant their allowance. Thus, an allowance or disallowance of an acquisition premium would be just one part of the cost/benefit analysis under the G.L. c. 164, § 96 standard.

The Supreme Judicial Court considered the appeal of the DPU's decision. See **Attorney General v. Department of Telecommunications and Energy, Boston Edison Company, et al**, 438 Mass. 256 (2002) ("**Nstar**"). The Court discussed the DPU's policy relating to merger-related costs (of which the acquisition premium in **Nstar** was part) and stated "[t]hat policy, simply put, favors mergers and acquisitions of utility companies within its jurisdiction, and permits recovery of merger-related costs, where consolidation and recovery of costs will serve the "public interest," and is set forth in D.P.U. 93-167-A (1994) (*Mergers & Acquisitions*)." **Id.** at 261-62. Having laid out elements of the policy, the Court noted that the application of the "public interest" standard involves an "inquiry that is case specific and involves an analysis of many factors." **Id.**, (citing **D.P.U. 93-167-A** at 7-9). The court went on to address the DPU's reversal of its policy regarding recovery of acquisition premiums, stating:

With respect to the recovery of acquisition premiums, the department recognized that acquisition premiums "represent a cost or disadvantage to the ratepaying public. The theoretical basis, however, for allowing a premium is that a transaction otherwise in the public interest would not occur, absent premium allowance, and further that the costs or disadvantages represented by the premium are warranted by the benefits thereby captured." The department therefore reversed its previous policy

of per se disallowance of recovering an acquisition premium, stating that its recovery "will henceforth be judged on a case-by-case basis," and pursuant to the § 96 "public interest" standard. (citations omitted)

The cited cases reflect not only ratification by the Supreme Judicial Court and this Board of valuations for regulated utility property substantially in excess of net book value, but a marked change in the regulatory environment in Massachusetts as it impacts valuation of such property. In *Watertown*, the Court reasonably asked why a purchaser of rate-regulated property would be willing to pay more than the property's net book value, given that the purchaser's return, under existing DPU policy, would be "based on that property's net book, or rate base value, and not on any higher purchase price it might have paid." *Watertown*, 387 Mass. at 301. Refusing to rule out the possibility that a higher purchase price might be paid, the Court articulated circumstances under which such a price might be expected. These included when there is a possibility that the law or regulatory decisions might change to make an investment in the property more attractive. *Id.* at 305. Subsequent case law and DPU decisions reflect not only the possibility of such a change, but its realization.

In *Boston Edison*, the Court upheld valuation of regulated utility property giving equal weight to net book cost and depreciated reproduction cost, and affirmed the Board's view that the DPU "might allow adjustments in a purchaser's rate base to reflect a prudent purchase price above the plant's net book cost." *Boston Edison*, 402 Mass. at 15. The Board in *Boston Edison/Everett* highlighted a shift in DPU policy relating to the standard for recovery of investment in assets to allow recovery of those investments that are "prudently incurred," and observed that the *D.P.U. 86-36* series shed light on how the DPU "might consider the question of cost recovery when an existing or substantial portion of an existing generating station is sold from one [regulated utility] to another," citing an affidavit from Dr. Tierney stating that the question "would have been considered on a case-by-case basis." *Boston Edison/Everett*, Mass. ATB Findings of Fact and Reports, 1996-759 at 837-38. In *Stow*, the Court upheld the DPU's determination that RCNLD weighted equally with net book value met the "fair value" standard to be applied to Stow's electricity distribution system under G.L. c. 164, § 43, and affirmed the DPU's shift from its prior policy "limiting a buyer of utility property to the seller's rate base to a case-by-case determination."

Stow, 426 Mass. at 347. Finally, in **Nstar**, the Court affirmed the DPU's decision to allow recovery of an acquisition premium in rates, reflecting DPU's reversal of another longstanding policy.

In sharp contrast to utilities operating at the time of **Watertown**, a prospective purchaser of rate-regulated utility property as of the assessment date relevant to these appeals could expect case-by-case treatment from the DPU with respect to cost recovery in a purchase transaction, including a request for recovery of an acquisition premium. Moreover, the DPU's adoption of performance-based rates, or PBR, constituted a change in regulatory policy that in many instances will affect the price paid by a purchaser for rate-regulated utility property. As discussed, *supra*, PBR contemplates deviation from the return provided by the cost-based rate setting mechanism that strictly ties rates relating to a utility's regulated assets to the net book value of those assets. Under PBR, for years after the first year's "cast-off rate," which is based on the traditional cost-based rate-of-return formula, the DPU sets a fixed upward inflation adjustment to the cast-off rate and a downward productivity adjustment intended to encourage utilities to operate efficiently. Thus, a utility that operates more efficiently

than the productivity offset anticipates can achieve a level of profitability not allowed under the traditional cost-based formula. This possibility can affect whether a purchaser would pay more for regulated utility property than its net book value.

The Board found and ruled that the cited cases and regulatory policy, collectively, negate any assertion that net book value is the sole determinant of a regulated utility's fair market value and raise a significant question regarding the weight it should be afforded in valuation matters. Moreover, the Board found that the unique nature of gas utility pipeline, the useful life of which vastly exceeds its depreciable life, gives the property a residual value well in excess of net book value, which is appropriately accounted for through use of a depreciation floor. Such a floor reflects the value associated not only with currently valid permits and licenses establishing rights of way, but the continued utility of and contribution to service provided by fully depreciated property. See, e.g., ***In Re: MCI Consolidated Central Valuation Appeals: Boston and Newton***, Mass. ATB Findings of Fact and Reports, 2008-255, 317-18, *affd. in relevant part*, 454 Mass. 635 (2009) ("**MCI**") (finding that a 30% to the good depreciation floor for telephone property

appropriately reflected, *inter alia*, the property's "continuing vitality and maintenance . . . and consideration of the considerable original investment in associated direct and indirect costs"). Indeed, approximately 80% of the cost new value of the pipes at issue in this appeal were installed prior to 1942, evidence of how depreciation for rate purposes distracts from the actual value of the property for *ad valorem* tax purposes.

The Board also found that sales activity in the marketplace indicates that net book value is no longer a reliable indicator of a regulated utility's fair market value. As previously noted, the assessors, through the testimony and appraisal report of Mr. Sansoucy, presented several transactions involving regulated utilities, one of which was the acquisition of Eastern by KeySpan in 2000. Each transaction involved a substantial acquisition premium, and was analyzed by Mr. Sansoucy to account for assets unrelated to rate-regulated utility property, including assets with identifiable value such as "current assets" and "other assets." In this manner, Mr. Sansoucy isolated the value of assets that he concluded were comprised almost exclusively of plant and equipment, which is rate-regulated property. The Board found that Mr. Sansoucy's analysis supported the conclusion that

purchasers had paid substantially more than net book value for rate-regulated utility property.

The Board also considered whether, among the transactions presented, the evidence of record established that enterprise values and the value of regulated assets were sufficiently distinct so as to account for the acquisition premiums associated with the transactions. Taking into account elements of a utility company, including various intangibles, which Dr. Tierney testified are sources of value beyond rate-regulated utility assets, the Board found that the record before it did not reveal a distinction between enterprise value and the value of regulated assets that would account for an appreciable portion of the premiums. In particular, the Board found that the record did not contain persuasive evidence of specific value associated with intellectual property, "brand name," customer base, or any other intangible component of an enterprise. Absent such evidence, the Board could not determine how and to what extent value attributable to any of these assets may have been distinct from the fair market value of the appellant's rate-regulated utility property.

Based on the foregoing, the Board found and ruled that the evidence of record, particularly that relating to the

marketplace sales of regulated utilities presented by the assessors, constitutes "evidence showing that a potential buyer would pay more than [] net book value" for regulated utility property. **Tennessee Gas Pipeline**, 428 Mass. at 263. This evidence also puts into question the import of net book value. See **Montaup Electric**, 390 Mass. at 847. In light of these conclusions, the burden rests squarely with the appellant to make out its right as a matter of law to an abatement of tax. See **Schlaiker** 365 Mass. at 245. Moreover, given the evidence presented by the assessors, the appellant bears the burden of showing the absence of circumstances that indicate the property at issue would sell for more than net book value. See **Montaup Electric**, 390 Mass. at 855.

The appellant's case in chief, which focused on the testimony of Dr. Tierney and supporting witnesses, hinges upon the premise that the fair market value of rate-regulated utility property is limited to its net book value. According to the appellant, any sale of a utility involving more than only rate-regulated property constitutes the sale of an enterprise, the price of which may exceed the value of the rate-regulated property involved. This difference, in the appellant's view, is necessarily associated with contribution to value from

elements of the enterprise other than its rate-regulated property. Thus, any acquisition premium, regardless of its magnitude, is paid for value unrelated to rate-regulated assets.

As the discussion in these findings makes clear, the Board was not persuaded either by the appellant's assertions regarding net book value or the evidence presented to support them. The Board found that the appellant relied primarily on theory, and failed to establish that the various elements of an enterprise it claimed contribute to and comprise an acquisition premium did so with respect to several transactions examined in great detail during the course of these appeals. On this record, the Board cannot find that the appellant's singular reliance on net book value as the determinant of fair cash value is justified. As the appellant offered no other estimate of the fair cash value of the property at issue in these appeals (with the exception of Mr. Logue's flawed hypothetical valuation of the Commercial Point parcel) the Board found and ruled that the appellant failed to sustain its burden of demonstrating that assessed value of the real and personal property considered in these appeals exceeded its fair cash value for fiscal year 2004.

For the reasons stated previously, the Board also found that it was not able to arrive at an estimate of value for the real property at Commercial Point. More specifically, neither Mr. Logue nor Mr. Foster, the real estate valuation experts presented by the parties, provided a sufficient basis to value the Commercial Point parcel. Absent such information, the Board found that the record did not provide a basis to determine the value of the property as whole. The Board found, however, that the evidence of record was sufficient to estimate the fair cash value of the appellant's personal property in Boston as of January 1, 2003.

II. Valuation of Personal Property

Generally, real estate and personal property valuation experts, the Massachusetts courts and this Board rely upon three approaches to determine the fair cash value of property, income capitalization, sales comparison, and cost reproduction. *Correia v. New Bedford Redevelopment Authority*, 375 Mass. 360, 362 (1978). "The [B]oard is not required to adopt any particular method of valuation." *Pepsi-Cola Bottling Co. v. Assessors of Boston*, 397 Mass. 447, 449 (1986). Regardless of which method is employed to determine fair cash value, the Board must determine the

highest price a hypothetical willing buyer would pay to a hypothetical willing seller in an assumed free and open market. See *Irving Saunders Trust v. Board of Assessors of Boston*, 26 Mass. App. Ct. 838 (1989).

Given that all of the personal property at issue is subject to rate regulation, the Board is particularly mindful of the longstanding principle that “[w]hen assessing the value of property owned by a utility, the [B]oard must consider the impact of government regulations.” *Watertown*, 387 Mass. at 304. The Court in *Watertown* also noted, however, that the value of property for rate-making purposes “may have little to do with what the property would sell for on a free and open market. The original cost of property, reduced by a fixed annual rate of depreciation, hardly is a guaranteed measure of the fair market value of that property.” *Id.* at 303-304. Aware of these principles, the Court in *Montaup Electric* acknowledged the value of market sales and capitalized net earnings to value property, and stated that “[i]n valuing special purpose property, the current replacement cost, or reproduction cost of the property less depreciation (DRC), may also prove probative of fair cash value.” *Montaup Electric*, 390 Mass. at 850; see also *Stow*, 426 Mass. at 345 (reiterating its prior statement that “reproduction cost is

'probative of fair cash value' of utility property"(additional citation omitted)). Affirming that the DPU was within its discretion in giving equal weight to the RCNLD and original cost less depreciation valuation approaches to value Stow's electricity distribution system, the Court stated that "[a]s a general principle, the [RCNLD] approach . . . constitutes an appropriate method of valuing special purpose property." *Id.* (citing *Watertown* 387 Mass. at 304). Moreover, this Board in *Boston Edison/Everett* eschewed the comparable-sales and income approaches in favor of the RCNLD approach, which it concluded was a more reliable method to value regulated utility property. For Massachusetts cases in which RCNLD has been used to value utility property, the varying weight given to RCNLD and net book value has depended upon the facts and circumstances of the particular case. See generally *Boston Edison*, 402 Mass. 1; *Stow*, 426 Mass. 341; *Boston Edison/Everett* Mass. ATB Findings of Fact and Reports, 1996-759.

Consistent with this precedent, and under the facts present in the current appeal, the Board found that the RCNLD valuation methodology weighted equally with net book value was the most appropriate approach to value the appellant's personal property in Boston. As discussed at

length in the findings of fact, *supra*, the Board found Mr. Sansoucy's RCNLD analysis fundamentally sound. In particular, the Board found the following with regard to Mr. Sansoucy's analysis: cost-index trending was an appropriate means to determine the cost new of the property;³³ the HWI for the North Atlantic Region and historical cost records provided by Boston Gas yielded reliable figures for the cost new of the property; the allowance for excess cost of construction was reliable; Mr. Sansoucy appropriately sought to account for physical depreciation, and functional and economic obsolescence; the allowance for physical depreciation, and in particular Mr. Sansoucy's choice of a depreciation floor of 20% "to the good" were reasonable; and Mr. Sansoucy's estimation of economic obsolescence was reasonable.

Having found Mr. Sansoucy's RCNLD analysis sound, and after making adjustment for Mr. Sansoucy's error relating to estimation of excess operating expenses, which comprised a portion of his allowance for functional obsolescence, the Board found an adjusted value of \$336,848,000 under the cost approach. The Board next took into account the contemporaneous regulatory environment and case law, which

³³ The Supreme Judicial Court affirmed use of cost-index trending in the context of a depreciated reproduction cost analysis in *MCI*. *MCI*, 454 Mass. at 639.

reflect significant change since *Watertown*, as well as the balance of the evidence, particularly that relating to several utility sales and their associated acquisition premiums, and determined that a valuation methodology affording equal weight to RCNLD and net book value yielded a reliable estimate of the fair cash value of the personal property. The Board also found that equal weighting of RCNLD and net book value was consistent with the combined valuation approaches ratified by the Supreme Judicial Court and the Board in *Boston Edison*, *Stow* and *Boston Edison/Everett*. In this manner, the Board found that the fair cash value of the personal property was \$248,000,000 as of January 1, 2003.

In reaching its opinion of fair cash value in these appeals, the Board was not required to believe the testimony of any particular witness or to adopt any particular method of valuation that an expert witness suggested. Rather, the Board could accept those portions of the evidence that the Board determined had more convincing weight. *Foxboro Associates*, 385 Mass. at 683; *New Boston Garden Corp. v. Assessors of Boston*, 383 Mass. 456, 473 (1981); *Assessors of Lynnfield v. New England Oyster House, Inc.*, 362 Mass. 696, 702 (1972). "The credibility of witnesses, the weight of the evidence, and

inferences to be drawn from the evidence are matters for the [B]oard." *Cumington School of the Arts, Inc. v. Assessors of Cumington*, 373 Mass. 597, 605 (1977). Applying these principles, the Board selected the most probative evidence in the record regarding valuation of the appellant's personal property in Boston for fiscal year 2004. In this regard, the Board found that a one-to-one ratio of the adjusted RCNLD methodology presented by Mr. Sansoucy and net book value provided the most reliable basis for estimating the personal property's fair cash value.

III. Conclusion

Having considered all of the evidence, the Board found and ruled that the appellant failed to sustain its burden of demonstrating that the assessed value of the property at issue in these appeals was greater than its fair cash value. The Board also found and ruled that the fair cash value of the personal property at issue was \$248,000,000 as of January 1, 2003, which exceeded the assessed value of \$223,200,000.

On this basis, the Board decided these appeals for the appellee.

THE APPELLATE TAX BOARD

By: _____
Thomas W. Hammond, Jr. Chairman

A true copy,

Attest: _____
Clerk of the Board